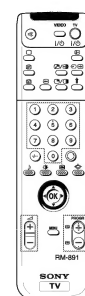
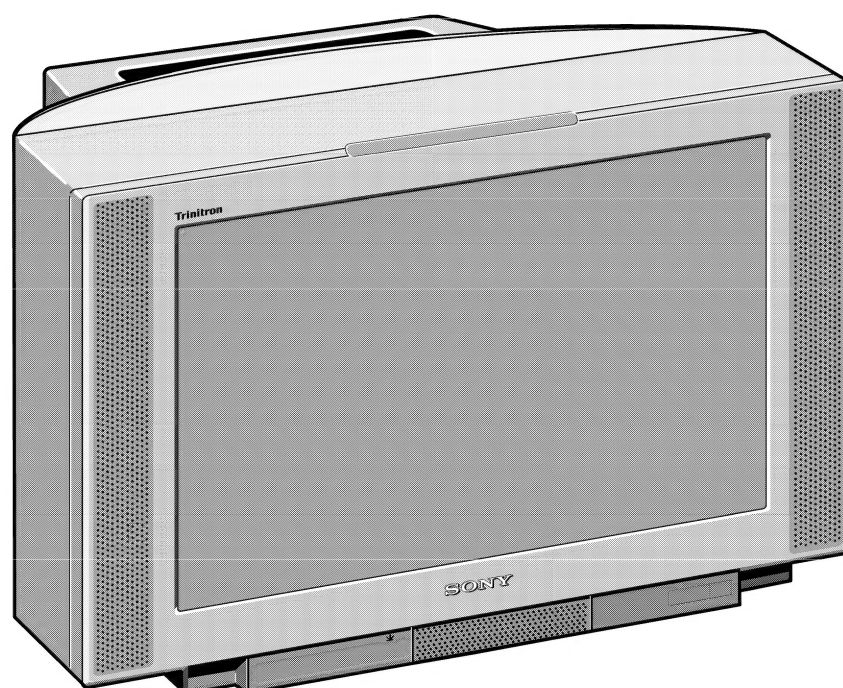


# SERVICE MANUAL

## AE-5 CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
<b>KV-28FX60A</b>	RM-891	Italian	SCC-Q12D-A	<b>KV-32FX60A</b>	RM-891	Italian	SCC-Q12B-A
<b>KV-28FX60B</b>	RM-891	French	SCC-Q13D-A	<b>KV-32FX60B</b>	RM-891	French	SCC-Q13B-A
<b>KV-28FX60D</b>	RM-891	AEP	SCC-Q11D-A	<b>KV-32FX60D</b>	RM-891	AEP	SCC-Q11B-A
<b>KV-28FX60E</b>	RM-891	Spanish	SCC-Q14D-A	<b>KV-32FX60E</b>	RM-891	Spanish	SCC-Q14B-A
<b>KV-28FX60K</b>	RM-891	OIRT	SCC-Q16F-A	<b>KV-32FX60K</b>	RM-891	OIRT	SCC-Q16A-A
<b>KV-28FX60R</b>	RM-891	OIRT	SCC-Q16E-A	<b>KV-32FX60R</b>	RM-891	OIRT	SCC-Q16B-A
<b>KV-28FX60U</b>	RM-891	UK	SCC-Q15C-A	<b>KV-32FX60U</b>	RM-891	UK	SCC-Q15B-A



TRINITRON® COLOR TV  
**SONY®**



ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
Italian	B/G/H,D/K	GERMAN Stereo	ITALIA VHF : A-H2 (C) UHF : 21-69 PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05,M1-M10,U1-U10 DK VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K,L,I	GERMAN/NICAM Stereo	L VHF : F02-F10 UHF : F21-F60 CABLE : B-Q B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 I UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H/ VHF : E2-E12 : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 D/K VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G/H/ VHF : E2-E12 : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	KV-28FX60K/32FX60K GERMAN/NICAM Stereo  KV-28FX60R/32FX60R GERMAN Stereo	B/G/H/ VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 D/K VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	28FX60A	28FX60B	28FX60D	28FX60E	28FX60K	28FX60R	28FX60U
Power Consumption	132W	132W	132W	132W	132W	132W	132W
MODEL	32FX60A	32FX60B	32FX60D	32FX60E	32FX60K	32FX60R	32FX60U
PowerConsumption	124W	124W	124W	124W	124W	124W	124W

#### [PICTURE TUBE]

##### KV-28FX60



FD Trinitron  
Approx. 71 cm (28 inches)  
(Approx. 66 cm picture measured diagonally)  
102 degree deflection

##### KV-32FX60



FD Trinitron  
Approx. 82 cm (32 inches)  
(Approx. 76 cm picture measured diagonally)  
102 degree deflection

#### Input/Output Terminals



##### [REAR]

 1/  1 21-pin Euro connector (CENELEC standard).

- Inputs for Audio and Video signals.
- Inputs for RGB.
- Outputs of TV Video and Audio signals.

 2/  2 21-pin Euro connector


- Inputs for Audio and Video signals.
- Inputs for S video.
- Outputs for Video and Audio signals (selectable).


 3/  3 21-pin Euro connector


- Inputs for Audio and Video signals.
- Inputs for S video.


External speaker terminals : 2-pin Din (5)

##### [FRONT]

 3 Video output - phono jack

 3 Audio inputs - phono jacks

 3 S Video input - 4 pin din

 Headphone jack : stereo minijack

Sound output 2x25W (Music Power)  
Subwoofer 25W (Music Power)  
Power requirements 220 - 240V

##### Dimensions

KV-28FX60 Approx 772x497x533 (w/h/d)  
KV-32FX60 Approx 867x564x558 (w/h/d)

##### Weight

KV-28FX60 Approx 42.5kg  
KV-32FX60 Approx 65 kg

Supplied accessories RM-891 Remote Commander (1)  
IEC designated R6 battery (2)

Other features NICAM\*, FASTEXT, TOPTXT  
\* (KV-28FX60B,28FX60E,28FX60K,28FX60U,  
32FX60B,32FX60E,32FX60K,32FX60U only)


**[RM-891]**

Remote control system	Infrared control
Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Dimensions	Approx 210x56x24mm (w/h/d)
Weight	Approx 110g (Not including battery)

Design and specifications are subject to change without notice.

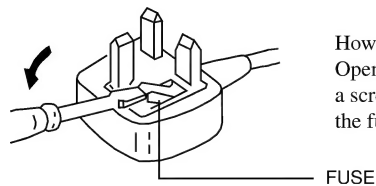
Model Name	KV-28FX60A	KV-28FX60B	KV-28FX60D	KV-28FX60E	KV-28FX60K	KV-28FX60R	KV28FX60U
Item	KV-32FX60A	KV-32FX60B	KV-32FX60D	KV-32FX60E	KV-32FX60K	KV-32FX60R	KV-32FX60U
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	ON	ON	ON	ON	ON
Woofer Box	ON	ON	ON	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON	OFF	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON	ON
Scart 4	ON	ON	ON	ON	ON	ON	ON
Projector	OFF	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	OFF	OFF	ON
Norm D/K	ON	ON	ON	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON	ON	ON	ON
Nicam Stereo	OFF	ON	OFF	ON	ON	OFF	ON
Language Preset	Italian	French	German	Spanish	OIRT	OIRT	English

## WARNING (KV-28FX60U/32FX60U only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the  mark.

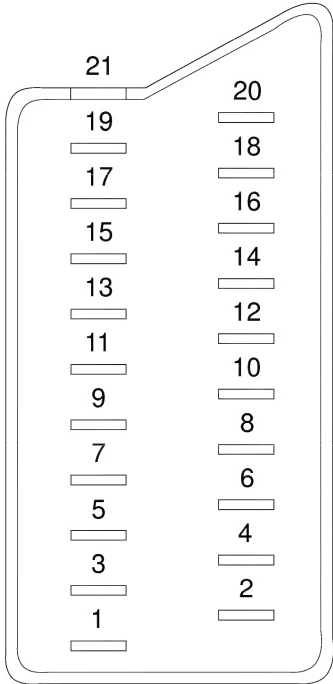
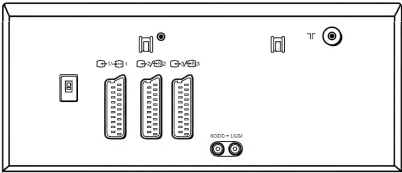
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE OUTLET SOCKET.

When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.  
Open the fuse compartment with a screwdriver blade and replace the fuse.

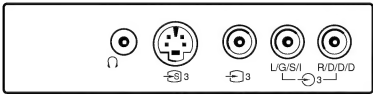
21 pin connector



Pin No	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
2	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedance : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	-	-	Red input	0.7 +/- 3dB, 75 ohms, positive
	-	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	-	-	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	-	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected      ● Not Connected (open)      \* at 20Hz - 20kHz

Pin No.	Signal	Signal Level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm, positive Sync. 0.3V -3 + 10dB
4	C (S signal) input	0.3V ± 3dB 75 ohm, positive Sync.





## AE-5 SELF DIAGNOSTIC SOFTWARE

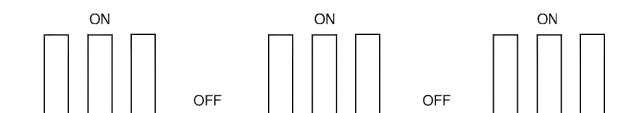
The identification of errors within the AE-5 chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See table 1., non fatal errors are reported using this method.

Diagnostic Item Description	No of times Standby LED Flashes	Probable cause Location	Detected Symptoms
Power does not turn on	Does not light	Power cord is not plugged in Fuse is burned out	Power does not come on No power is supplied to the TV AC power supply is faulty
+B Overcurrent (OCP)	2 times	H.OUT (Q6803/6804) is shorted. (D Board) Linearity FET (Q6806) is shorted. (D Board) IC6604 Power IC is shorted. (D Board)	Power does not come on Load on power line has shorted
Vertical Deflection stopped	4 times	+15V is not supplied R6835 open (D Board) -15V is not supplied R6834 open (D Board) IC6700 is shorted (D Board)	Vertical deflection pulse has stopped Power line has shorted

ERROR	LED ERROR COUNT
No error	00
Not allowed (may be confused with Sircs response flash!)	01
Over Current Protection	02
Over Voltage Protection	03
Vertical Protection	04
AKB	05
H - Protection	06
Speaker Protection	07
General IIC Line 0 error	08
MEGATEXT	09
NVM	10
Main colour decoder	11
Feature Box	12
D/A converter	13
Backend	14
Multi sound processor	15
Auto Wide	16
External RAM	17

### Flash Timing Example : e.g. error number 3

StBy LED



## ERROR DETECTION MONITOR

Device acknowledge is used to check IIC errors. Device acknowledge is checked by sending an IIC start sequence during CRT power on. Each device is checked three times, if there is no acknowledge after every attempt, it will be regarded as an error.

There are three steps to check errors

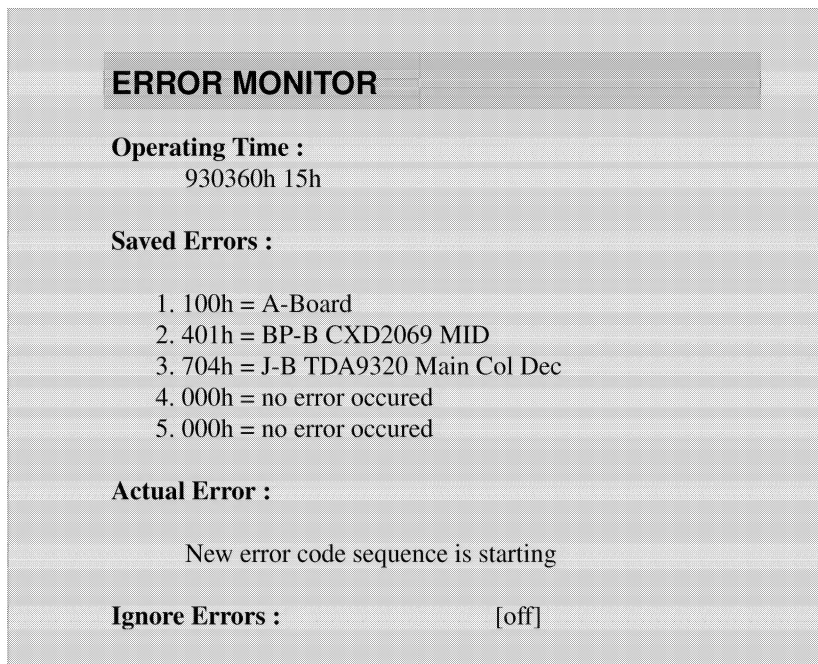
1. IIC line 0  
If all devices except the NVM are errors, IIC line 0 error is displayed
2. Board check  
If all devices mounted on one board have errors, board error is displayed
3. Each device check  
If IIC line error and board error are not detected then the device with an error is displayed

The detected errors can be displayed as follows:

1. Error Monitor Menu
2. Error Reader

### 1. ERROR MONITOR MENU

The error monitor menu is displayed by selecting TT33. The following menu will be displayed:



**ERROR MONITOR**

**Operating Time :**  
930360h 15h

**Saved Errors :**

1. 100h = A-Board
2. 401h = BP-B CXD2069 MID
3. 704h = J-B TDA9320 Main Col Dec
4. 000h = no error occurred
5. 000h = no error occurred

**Actual Error :**

New error code sequence is starting

**Ignore Errors :** [off]

## 2. ERROR READER DISPLAY

The error reader display is connected to the service connector to read actual error codes. The part number for the error reader display is S-188-900-10. Once an error has been detected it will then be displayed on the two digit error reader. The errors displayed refer to the following table :

Send Data to Error Reader				
Error Code	Data high	Data Low	Error type	Function
00 00h	-	f0h	no device	
<b>Gen.IIC Error</b>				
00 01h	f0h	01h	IIC 0 line	
00 02h	f0h	02h	IIC 1 line	not used
<b>Board Error</b>				
01 00h	f1h	00h	A Board	
02 00h	f2h	00h	B1 Board	
03 00h	f3h	00h	B2 Board	
04 00h	f4h	00h	BP Board	
05 00h	f5h	00h	D1 Board	
06 00h	f6h	00h	E Board	
07 00h	f7h	00h	J Board	
<b>Device Error</b>				
A Board				
01 01h	f1h	01h	CXA1875	Port Expander
01 02h	f1h	02h	TU1326	Main Tuner
01 03h	f1h	03h	TU1350	Sub Tuner
B1 Board				
02 01h	f2h	01h	P83C654	Feature Box
02 02h	f2h	02h	SDA9280	D/A Converter
B2 Board				
03 01h	f3h	01h	SAA4977	Basic
03 02h	f3h	02h	SAA4950	Memory
BP Board				
04 01h	f4h	01h	CXD2069	MID
D1 Board				
05 01h	f5h	01h	CXA8070	Dynamic Conv.
05 02h	f5h	02h	CXA1875	Port Expander
E Board				
06 01h	f6h	01h	CXD2100	Backend
J Board				
07 01h	f7h	01h	CXD2057	Auto Wide
07 02h	f7h	02h	SDA9288	PIP
07 03h	f7h	03h	TDA9320	Sub Colour
07 04h	f7h	04h	TDA9320	Main Colour
07 05h	f7h	05h	CXA1875	Sub Sound
07 06h	f7h	06h	TDA7309	HP Amp
07 07h	f7h	07h	TEA6422DT	Audio SW
07 08h	f7h	08h	MSP3410D	Sound Proc
07 09h	f7h	09h	TC9337F	Sound DSP

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## CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP

## WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

## SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.


## ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

## ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

## ATTENTION AUX COMPOSANTS RELATIFS À LA SÛRETÉ !!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÛRETÉ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÉS PAR SONY.

# SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

## Overview

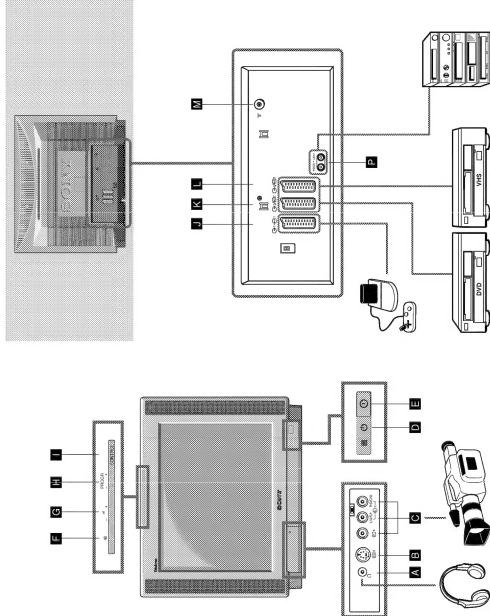
This section briefly describes the buttons and controls on the TV set and the Remote Control. Open the flaps at the front and back of this Instruction Manual for detailed illustrations. For more information refer to the page numbers given in the overview.

## Remote Control

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1 TVI/⏻	TV: standby mode on/off	32
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18	Volume control	32
19	Picture mode	32
20	Equaliser mode	32
21	Selection of double digit channel numbers	32
22	Freezing of TV picture	32
23	No function on this set	32
24	Teletext: Switching on	42
25	TV: Selecting of TV mode	32
26	Teletext: Switching off	42
27	Muting of sound on/off	32
28	VCR: Standby mode	45
<b>Buttons under cover</b>		
29	Displaying of the time	32
30	VCR operation	45
31	Video equipment selector	45
32	Buttons for VCR operation	45
33	Resetting of picture setting	32

## TV-set – front and top

Symbol	Description	See page
A	Headphone jack	46
B	S-video input jack	44
C	Phono video/audio inputs	44
D	Indicator for Standby mode	32
E	Power switch	32
F	Selecting of input source	44
G	Volume control	32
H	Channel selection up- and downwards	32
I	CONTROL	32



## TV-set – rear

Symbol	Description	See page
J	21-pin Euro connector (Scart)	44
K	21-pin Euro connector (Scart)	44
L	21-pin Euro connector (Scart)	44
M	Aerial socket	30
N	L/G/S/I R/D/D/D	46

## First Time Operation

**i** The following chapter contains all the steps necessary when first installing your TV and the basic TV functions.

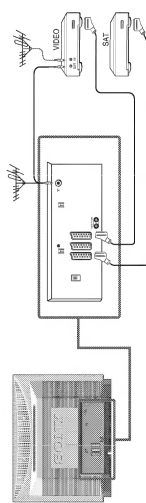
## Step 1 Installation

## A Connecting the TV Set

- 1** Connect the TV set to the mains socket (220-240 V. AC, 50 Hz).  
**2a** Connect a conventional aerial cable to the socket marked **M** on the rear of the TV set.  
or  
**2b** Connect your Satellite Receiver to one of the Scart connectors **J K L** of the TV set.

**When connecting a VCR to your TV set:**

We recommend that you use the preset function Manual Programme Preset (page 33) to tune in the VCR signal to programme position 0.



## B Inserting the Batteries into the Remote Control

**Make sure to insert the batteries using the correct polarities.**

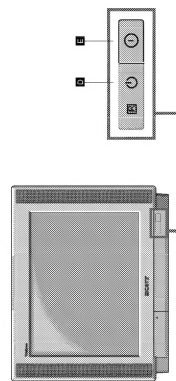
 Dispose of exhausted batteries according to your local regulations.



## C Switching on the TV Set

- Press the switch ① **E** at the front of the TV set.

**f** If the standby mode indicator **D** on the TV is lit, press TV / **⏻** on the Remote Control to switch on the TV set.

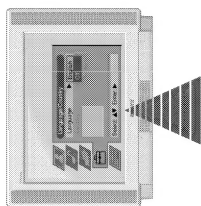
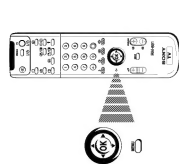


## Step 2 Basic Presetting

## A The Menu System

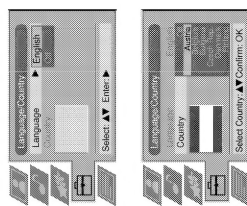
**i** Your TV uses an on-screen menu system to guide you through the operations. Use the following buttons on the Remote Control to operate the menu system:

- Press MENU **12** to switch the menu on and off.
- Use **Use** **▶**, **▶**, **▶** of the joystick **15** to select within the menu system.
- Press OK to store.
- When menu is switched off:  
Press **▶** to return to the last menu screen.



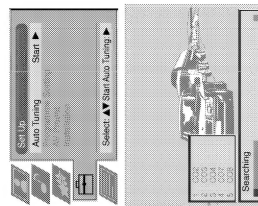
## B Selecting Language and Country

- 1 Press the MENU **[F]** button.
- 2 The menu Language/Country appears on the screen.
- 3 Push the joystick **[D]** to **[▶]**. Push the joystick **[D]** to **[▼]** to select the language.  
Press OK **[E]**.
- 4 The menus appear in the selected language.
- 5 Push the joystick **[D]** to **[▶]** to select Country. Push the joystick **[D]** to **[▶]**.
- 6 Select the country in which you will operate the TV set using **[▼]** or **[▶]**.  
Confirm by pressing OK **[E]**.
- 7 The menu Auto Tuning appears.



## C Automatic Tuning In of Channels

- Push the joystick **1** to ►. After all available channels are stored, the TV goes back to the programme position with which you started the automatic tuning. Your TV is now ready for use.
- To stop the automatic tuning: Press OK **1**.
- If you wish to change the sequence of the stored channels, go to Sorting Programme Positions in Advanced Presetting.
- If you need to change or repeat the tuning afterwards (e.g. when you move house): select the menu Auto Tuning in the Set Up **1** menu.



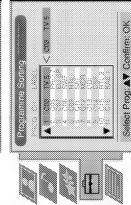
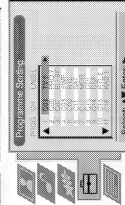
## Advanced Operation

### Advanced Presetting

#### Sorting of Programme Positions

❶ After having used Automatic Tuning of channels you may wish to rearrange the order of the channels.

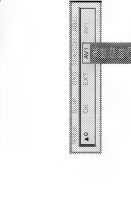
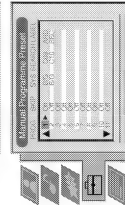
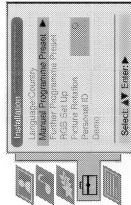
- 1 Press MENU. Select the symbol using  $\blacktriangledown$ . Push to  $\blacktriangleright$ .
- 2 Select Programme Sorting using  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 3 Select the programme position of the channel you wish to sort using  $\blacktriangle$  or  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 4 Move the channel to the new programme position using  $\blacktriangle$  or  $\blacktriangledown$ . Store by pressing OK.
- 5 The channel is now at the new position. The other programme positions move accordingly.
- 6 Press MENU to return to the normal TV screen.



#### Manual Tuning In of Channels

❶ Use this function to preset channels or a video input source one by one to programme positions of your choice.

- 1 Press MENU. Select the symbol using  $\blacktriangledown$ . Push to  $\blacktriangleright$ .
- 2 Select Installation using  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 3 Select Manual Programme Preset using  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 4 Select the programme position by pushing to  $\blacktriangle$  or  $\blacktriangledown$ . Push twice to  $\blacktriangleright$ . The column SYS is highlighted.
- 5 Select the TV system using  $\blacktriangle$  or  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 6 Available TV systems are B/G for western European countries, D/K for eastern European countries, EXT for a video input source (please go to step 5c after selecting EXT).
- 7 The column SEARCH is highlighted.
- 8 Select your method for the channel tuning using  $\blacktriangle$  or  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 9 You have the choice between C for a terrestrial channel, S for a cable channel, F for direct frequency input.



- a **Direct Channel Input - S, C or F**
- For channel numbers input a two digit number, for the channel frequency a three digit number.
- Select the two or three digits by using the number buttons 0 to 9.
- To start the search and to store the channel, press OK.
- To preset other channels repeat steps 3 to 5a.
- b **Channel search (SEARCH)**
- Use Search if you do not know the channel number or frequency
- Start the search for the next available channel by pushing to  $\blacktriangledown$ .
- Store the channel by pressing OK or continue the search by pushing again to  $\blacktriangledown$ .
- To search for other channels repeat steps 3 to 5b.
- c **For video input sources (EXT)**
- Select the Video Input source using  $\blacktriangle$  or  $\blacktriangledown$ .
- Store your selection by pressing OK.
- To allocate other sources repeat steps 3 to 5c.
- 6 Press MENU to return to the normal TV screen.

First Time Operation 33

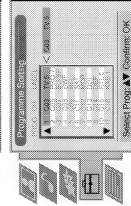
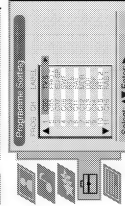
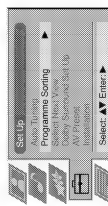
## Advanced Operation

### Advanced Presetting

#### Sorting of Programme Positions

❶ After having used Automatic Tuning of channels you may wish to rearrange the order of the channels.

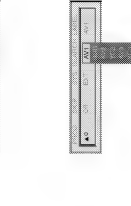
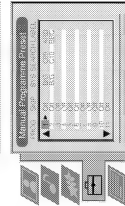
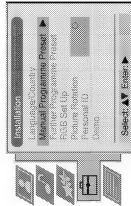
- 1 Press MENU. Select the symbol using  $\blacktriangledown$ . Push to  $\blacktriangleright$ .
- 2 Select Programme Sorting using  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 3 Select the programme position of the channel you wish to sort using  $\blacktriangle$  or  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 4 Move the channel to the new programme position using  $\blacktriangle$  or  $\blacktriangledown$ . Store by pressing OK.
- 5 The channel is now at the new position. The other programme positions move accordingly.
- 6 Press MENU to return to the normal TV screen.



#### Manual Tuning In of Channels

❶ Use this function to preset channels or a video input source one by one to programme positions of your choice.

- 1 Press MENU. Select the symbol using  $\blacktriangledown$ . Push to  $\blacktriangleright$ .
- 2 Select Installation using  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 3 Select Manual Programme Preset using  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 4 Select the programme position by pushing to  $\blacktriangle$  or  $\blacktriangledown$ . Push twice to  $\blacktriangleright$ . The column SYS is highlighted.
- 5 Select the TV system using  $\blacktriangle$  or  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 6 Available TV systems are B/G for western European countries, D/K for eastern European countries, EXT for a video input source (please go to step 5c after selecting EXT).
- 7 The column SEARCH is highlighted.
- 8 Select your method for the channel tuning using  $\blacktriangle$  or  $\blacktriangledown$ . Push to  $\blacktriangleright$  to enter.
- 9 You have the choice between C for a terrestrial channel, S for a cable channel, F for direct frequency input.



- a **Direct Channel Input - S, C or F**
- For channel numbers input a two digit number, for the channel frequency a three digit number.
- Select the two or three digits by using the number buttons 0 to 9.
- To start the search and to store the channel, press OK.
- To preset other channels repeat steps 3 to 5a.
- b **Channel search (SEARCH)**
- Use Search if you do not know the channel number or frequency
- Start the search for the next available channel by pushing to  $\blacktriangledown$ .
- Store the channel by pressing OK or continue the search by pushing again to  $\blacktriangledown$ .
- To search for other channels repeat steps 3 to 5b.
- c **For video input sources (EXT)**
- Select the Video Input source using  $\blacktriangle$  or  $\blacktriangledown$ .
- Store your selection by pressing OK.
- To allocate other sources repeat steps 3 to 5c.
- 6 Press MENU to return to the normal TV screen.


First Time Operation 33

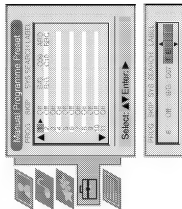


## Advanced Presetting

### Captioning a Station Name


**i** During presetting the channels are usually labelled automatically. You can, however, individually name a channel or a video input source.

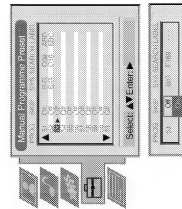
- 1 Press MENU. Select the symbol  using **▼**. Push to **►**.
- 2 Select Installation using **▼**. Push to **►** to enter.
- 3 Select Manual Programme Preset using **▼**. Push to **►** to enter.
- 4 Select the programme position of the channel or the video source you wish to label by pushing to **▼** or **▲**. Push repeatedly to **►** until the first element of the position LABEL is highlighted.
- 5 Select a number, a letter, + or a blank using **▲** or **▼**. Push to **►** to confirm.
- 6 Select the other four characters in the same way.
- 7 Store your selection by pressing OK.
- 8 To label other channels or video sources repeat steps 3 to 5.
- 9 Press MENU to return to the normal TV screen.



### Skipping of Programme Positions

**i** In case of 100 programme positions there may be unused positions, which you can skip in the menu Manual Programme Preset. When changing channels with the PROG+/- buttons they do then not appear. You can, however, still select them using the number buttons.

- 1 Press MENU. Select the symbol  using **▼**. Push to **►**.
- 2 Select Installation using **▼**. Push to **►** to enter.
- 3 Select Manual Programme Preset using **▼**. Push to **►** to enter.
- 4 Select the programme position you wish to skip by pushing to **▲** or **▼**. Push to **►** to enter.
- 5 The column SKIP is highlighted.
- 6 Select ON using **▼**.
- 7 Store by pressing OK.
- 8 To skip other programme positions repeat steps 3 to 5.
- 9 Press MENU to return to the normal TV screen.




## Advanced Presetting

### Using of Further Programme Preset

**i** Using the menu Further Programme Preset you can

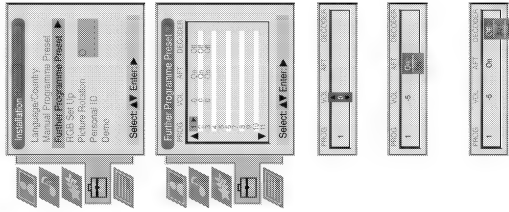
- a) individually adjust the volume level of each channel.
- b) improve the quality of a weak channel (picture or sound distortions) with manual fine tuning.
- c) preset the AV output for programme positions of those channels with scrambled signals (e.g. from a Pay TV decoder). In this way a connected VCR records the unscrambled signal.

- 1 Press MENU. Select the symbol  using **▼**. Push to **►**.
- 2 Select Installation using **▼**. Push to **►** to enter. Select Further Programme Preset using **▼**. Push to **►** to enter.
- 3 Select the programme position of the desired channel by pushing to **▲** or **▼**. Push repeatedly to **►** to select: VOL (Volume Offset), AFT (Automatic Fine Tuning) or DECODER.
- 4 The selected item changes colour.

- 4a VOL**  
Push to **▲** or **▼** to adjust the volume level (range -7 to +7) of the channel. Store by pressing OK.  
Repeat steps 3 and 4a if you wish to adjust the volume level of other channels.
- b AFT**  
Push to **▼** to select OFE. Push to **►** to enter Manual Fine Tuning. Push to **▲** or **▼** to fine tune the channel (range -15 to +15). Store by pressing OK.  
Repeat steps 3 and 4b if you wish to fine tune other channels.

- c DECODER**  
Push to **▲** or **▼** to select AV1 (Euro AV socket 1) or AV2 (Euro AV socket 2) as output for the video source on this programme position. Store by pressing OK.  
Repeat steps 3 and 4c if you wish to preset the AV output of other video sources.  
Should you use Auto Tuning afterwards, this setting will be cancelled.

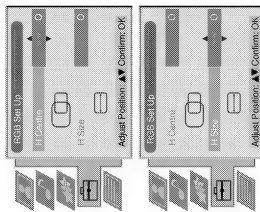
- 5 Press MENU to return to the normal TV screen.



## Adjusting the Picture Geometry for an RGB Source

**1** When connecting an RGB source such as a Sony Playstation you may need to readjust the picture geometry.

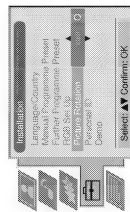
- 1 Select the connected RGB source by pressing repeatedly.
- 2 Press MENU. Select the symbol using . Push to .
- 3 Select Installation using . Push to to enter. Select RGB Set Up using . Push to to enter.
- 4 Select H Centre by pushing to . Adjust the centre of the picture (range from -5 to +5) using or . Store by pressing OK.
- 5 Select H Size using . Push to to enter. Adjust the horizontal coordinates (range from -5 to +5) using or . Store by pressing OK.
- 6 Press MENU to return to the normal TV screen.



## Adjusting the Picture Rotation

**1** Because of the earth magnetism the picture might slant. In this case you can readjust the picture.

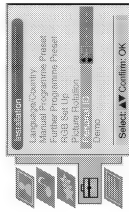
- 1 Press MENU. Select the symbol using . Push to .
- 2 Select Installation using . Push to to enter. Select Picture Rotation using . Push to to enter.
- 3 Adjust the Picture Rotation (adjusting range -4 to +4) by pushing to or . Store by pressing OK.
- 4 Press MENU to return to the normal TV picture.



## Inputting Your Personal ID

**1** You can programme your TV with a safety code, so that you can be traced if your TV is stolen and recovered. This code can only be input once! Make sure to write it down in this Instruction Manual.

- 1 Press MENU. Select the symbol using . Push to .
- 2 Select Installation using . Push to to enter. Select Personal ID using . Push to to enter.
- 3a** Select the first of a total of 11 characters (letter, number, + or a blank) by using or .
- b** Push to to go to the next character.
- c** Repeat a and b for all characters.
- 4 Store by pressing OK.
- 5 Press MENU to return to the normal TV screen.



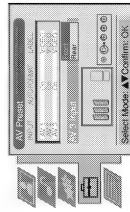
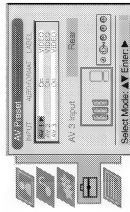
## Presetting and Labeling of Input Sources

**1** Using AV Preset you can select the automatic format function and label an input source.

- 1 Press MENU. Select the symbol using . Push to .
- 2 Select AV Preset using . Push to to enter.
- 3 Select the desired AV input (AV 1, 2 or 3) using or . Push to to enter.
- 1** After each step you have the choice between memorizing (press OK) or going to the next item (push to ).
- 4 For automatic format selection of the AV input:
  - a** Push to to select Auto Format.
  - b** Select On or Off using or .
- 5 To label the source:
  - a** Push to to select Label.
  - b** Select the first character using or . Push to to confirm.
  - c** Repeat step b to select the other 4 characters.
  - d** Store by pressing OK.
- 6 Repeat steps 3 to 5 for the other AV inputs.
- 7 Selecting the AV3 Input Source:
 

**1** In case of AV3 you have the choice between the front AV3 sockets or the rear Scart connector.

  - a** Push to to select AV3 Input. Push to to enter.
  - b** Select Front or Rear using or .
  - c** Store by pressing OK.
- 8 Press MENU to return to the normal TV screen.



# Advanced TV operation

## Adjusting Picture and Sound

**1** Picture and sound are adjusted at the factory. You can, however, adjust them individually.

Press MENU.

Select the symbol **[P]** for Picture or **[S]** for Sound using **▲** or **▼**. Push to **▶** to enter.

The menu Picture or Sound Control is displayed.

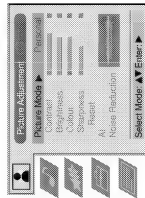
**2** Select the desired item using **▲** or **▼**. Push to **▶** to enter.

**3** Adjust the selected item using **▲**, **▼**, **▶** and **◀**. Press OK to store.

**1** Refer to the tables on this and the following page for more information.

**4** Repeat steps 2 and 3 to adjust other items.

**5** Press MENU to return to the normal TV screen.



### Picture Control

Item	Effect/Operation
Picture Mode	<ul style="list-style-type: none"><li>▼ Personal (for individual settings)</li><li>Movie (for movie broadcasts)</li><li>▲ Live (for live broadcasts)</li></ul>
Contrast	Less ◀ ▶ More
Brightness*	Darker ◀ ▶ Brighter
Colour*	Less ◀ ▶ More
Hue**	Greenish ◀ ▶ Reddish
Sharpness*	Softer ◀ ▶ Sharper
Reset	Resets picture to the factory preset levels
AI (Artificial Intelligence)	<ul style="list-style-type: none"><li>▼ Off: normal</li><li>▲ On: Automatic optimization of contrast level according to the TV signal</li></ul>
Noise Reduction	<ul style="list-style-type: none"><li>▼ Off: Normal</li><li>▲ On: Reduces picture noise in case of a weak broadcasting signal</li></ul>

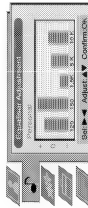
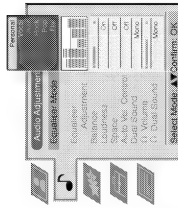
\* Only if Personal is selected in Picture Mode

\*\* Only available for NTSC colour signal (e.g. US video tapes)


## Advanced TV operation

### Sound Control

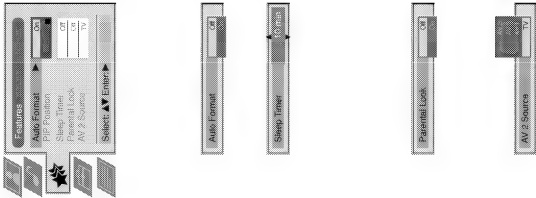
Item	Effect/Operation
Equaliser Mode	Select between the following sound settings <ul style="list-style-type: none"><li>▲ Personal</li><li>Vocal</li><li>Jazz</li><li>Rock</li><li>Pop</li><li>▼ Flat (fixed setting, cannot be adjusted)</li></ul>
Equaliser adjustment	<b>1</b> You can adjust the mode selected in Equaliser mode by cutting and boosting of 5 selected frequency bands. <b>2</b> Only the changes made in Personal can be stored, the others return to factory setting. Select the desired bar using <b>▶</b> or <b>◀</b> , adjust using <b>▲</b> and <b>▼</b> . Press OK to store.
Balance	<ul style="list-style-type: none"><li>▲ More left</li><li>▼ More right</li></ul>
Loudness	<ul style="list-style-type: none"><li>▲ Off: Normal</li><li>▼ On: For music broadcasts</li></ul>
Space	<ul style="list-style-type: none"><li>▲ Off: Normal</li><li>▼ On: Special acoustic effect</li></ul>
Auto Volume Control	<ul style="list-style-type: none"><li>▼ On: volume level of the channels will stay the same independent of the broadcast signal (e.g. in case of advertisements)</li><li>▲ Off: volume level changes according to the broadcast signal</li></ul>
Dual Sound	<ul style="list-style-type: none"><li>• For a bilingual broadcast: A for channel 1 ◀ ▶ B for channel 2</li><li>• For a stereo broadcast: Stere◀ ▶ Mono</li><li><b>1</b> For a Nicam broadcast: When receiving a Nicam broadcast &gt;NICAM◀ appears briefly on the screen.</li></ul>
Headphones [P] Volume [P] Dual Sound	<ul style="list-style-type: none"><li>Less ◀ ▶ More</li><li>• For a bilingual broadcast: A for channel 1 ◀ ▶ B for channel 2</li><li>• For a stereo broadcast: Stere◀ ▶ Mono</li><li>• PIP</li><li><b>1</b> When PIP is switched on, you can additionally select the PIP sound for the headphones</li></ul>



Using the Features Menu

- 1 Press MENU. Select the symbol  using **▼**. Push to **►**.
- 2 Select the desired menu item using **▼**. Push to **►** to enter.
- 3 Select the desired setting using **▲** or **▼**.
- 4 Store by pressing OK.
- 5 Press MENU to return to the normal TV screen.

Item	Effect/Operation
Auto Format	<b>▼</b> On: Automatic selection of the screen format <b>▲</b> Off: Normal mode
PIP Position	See next page for details
Sleep Timer	<b>1</b> You can select a time period after which the TV switches itself into standby mode <ul style="list-style-type: none"><li><b>▼</b> Off</li><li>10 min.</li><li>20 min.</li><li>...</li><li><b>▲</b> 90 min.</li></ul>
Parental Lock	<b>▼</b> Off: Normal mode <b>▲</b> On: TV can only be switched on out of standby-mode using the Remote Commander, the buttons on the TV do not work.
AV2 Source	<b>1</b> You can select the source to be output from the Scart connector <b>2</b> / <b>3</b> . In this way you can record from this socket while watching another source. <ul style="list-style-type: none"><li><b>▼</b> TV audio/video signal from the aerial <b>1</b></li><li>AV1 audio/video signal from Scart 1</li><li>AV2 audio/video signal from Scart 2</li><li><b>▲</b> AV3 audio/video signal from front or rear connectors</li></ul>



Using Picture-in-Picture

**1** Picture-in-Picture (PIP) lets you display a second, small screen within the main TV picture. In this way you can watch the video output from any connected equipment, e.g., from a VCR, while watching TV.

Switching PIP on and off

- Press **□/○/●**.
- The small screen is displayed.
- 1** The source of the small screen is the one last used when the TV was on.
- Press **□/○/●** again to switch PIP off.

Selecting a PIP source

- 1 Press **↑/↓**.
- 2** The symbol **↑** is displayed in the bottom left-hand corner of the screen.
- 2 Press **⊞/⊟** repeatedly until the desired source appears.
- 1** You can select between
  - TV, AV1, AV2, YC2, AV3 and YC3.
  - If no video source (e.g. VCR or Camera) is connected, the PIP will be noisy.
  - You cannot display an RGB source in the PIP.

Swapping the screens

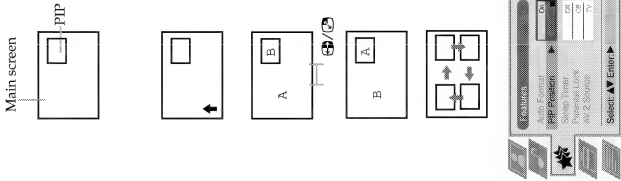
- Press **⊞/⊟**.
- The two screens are swapped.


Changing channels if the TV picture is in the PIP

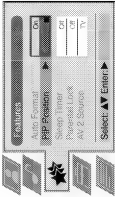
- First press **↑**, then the respective number buttons.

Changing the PIP position

- 1** There are four different positions of the small screen within the main screen. Select the PIP position in the Features menu.



- 1 Press MENU. Select the symbol  using **▼**. Push to **►** to enter.
- 2 Select PIP position by pushing to **▼**. Push to **►** to enter.
- 3 Select the desired position using **▼** or **▲**. Press OK to select.
- 4 Press MENU to return to the normal TV screen.



## Teletext

Most TV channels broadcast information via teletext. The index page of the teletext service (usually page 100) gives you information on how to use their service.

- Make sure to use a TV channel with a strong signal, otherwise there may be teletext errors.

### Direct Access Functions

#### Switching Teletext on and off

- 1 Select the TV channel which carries the teletext service you want to view.
  - a Press **[OK]** once to switch teletext on.
  - b The teletext menu is displayed.
  - c Press **[OK]** twice for Mix mode.
- 2 The TV broadcast and the Teletext display are overlapped.
- 3 Press **[OK]** or press **[OK]** a third time to switch teletext off.

#### Selecting a Teletext Page

##### Direct Page Selection

- Input the three digits of the page number using the number buttons **[0-9]**. If you have made a mistake:
  - Type in any three digits, then reenter the correct page number.

##### Page Catching

- 1 Select a teletext page which has several page numbers on it (e.g., the index page).
- 2 Press **[OK]**.
- 3 Page Catching is displayed at the top of the page.
- 4 Select the desired page number using **[▲]** or **[▼]** and press **[OK]**.
- 5 The requested page is displayed after some seconds.

#### Selecting the next or the preceding page

- Press **[▲]** (Page +) or **[▼]** (Page -).

#### Selecting the index page

- Press **[0]**.

#### Selecting a subpage

- A teletext page may consist out of several subpages. In this case an information line is displayed, showing the number of the subpages.
- Select the mode by pushing to **[▲]**. Select the subpage by using **[▲]** or **[▼]**.

#### Freezing a Teletext subpage

- 1 Press **[F]** or **[OK]**.
- 2 The symbol **[F]** is displayed and the subpage is not updated.
- 3 Press **[F]** to resume normal teletext reception.

#### Using Fastext\*

\*depending on availability of service

- Fastext lets you access pages with one button stroke. When Fastext is broadcast, a colour-coded menu appears at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Control **[R]**, **[G]**, **[Y]**, **[B]**.
- Press the coloured button which corresponds to the colour in the colour-coded menu.



## Teletext

### Using the Teletext Menu

- 1 This TV set has a menu-guided teletext system. When teletext is switched on you can use the joystick buttons to operate the teletext menu.

Select the menu functions as follows:

- 1 Press **[MENU]**.
- 2 The Teletext menu is superimposed on the teletext display.
- 3 Select the teletext function using **[▲]** or **[▼]**. Push to **[▶]** to enter.

#### Top/Bottom/Full

- 1 For convenient reading of a Teletext page you can enlarge it. After having selected the function, a sub menu **Top ▲ Bottom ▼ Full OK** is displayed.
  - Push to **[▲]** to enlarge the upper half of the screen, push to **[▼]** to enlarge the lower half. Press **[OK]** to resume the normal size.

#### Text Clear

- 1 After having selected the function, you can watch a TV channel while waiting for a requested Teletext page. As soon as the page is available, the symbol **[C]** changes colour.
  - Press **[C]** to view the page.

#### Reveal

- Some teletext pages contain hidden information (e.g., for a quiz), which you can reveal.
- After having selected the function, the hidden information appears.
  - Press **[R]** to resume the normal Teletext operation.

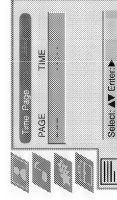
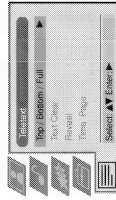
#### Time Page\*

\*depending on availability of service

- You can call up a time-coded page - such as an alarm page - at a time specified by you.

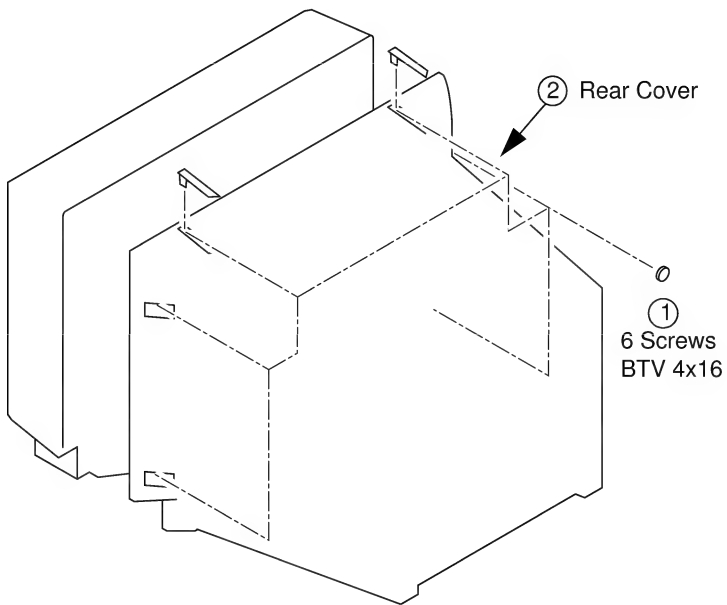
- 1 After having selected the function a sub menu is displayed.

- 2 Select **[On]** using **[▲]** or **[▼]**. Push to **[▶]** to enter.
  - 3 Enter the three digits of the desired page using the number buttons **[0-9]**. Push to **[▶]** after each digit.
  - 4 Enter the four digits of the desired time using the number buttons **[0-9]**. Push to **[▶]** after each digit.
  - 5 Press **[OK]** to store.
- The time is displayed in the top left-hand corner of the screen. At the requested time the page is displayed.

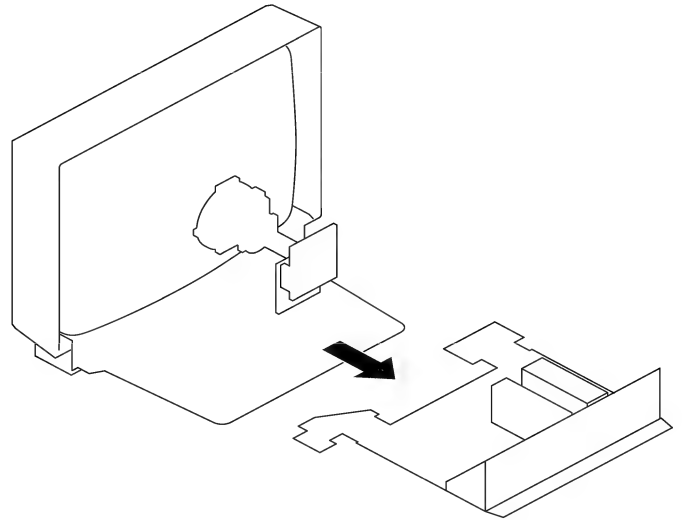


## SECTION 2 DISASSEMBLY

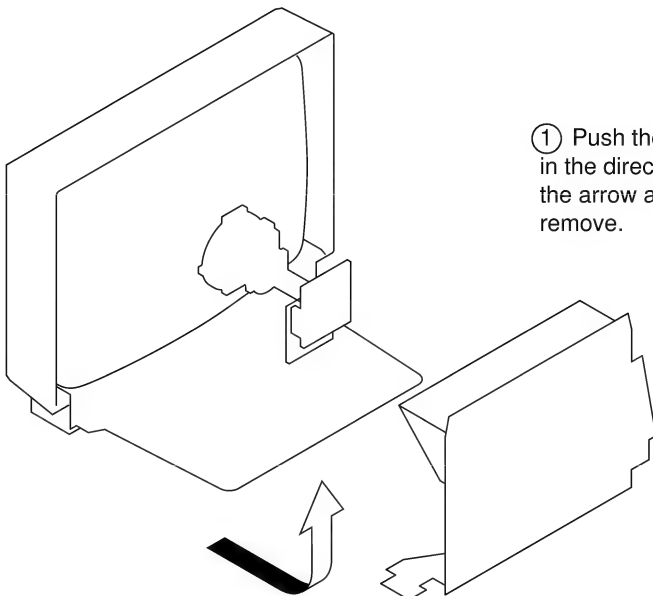
### 2-1. REAR COVER REMOVAL



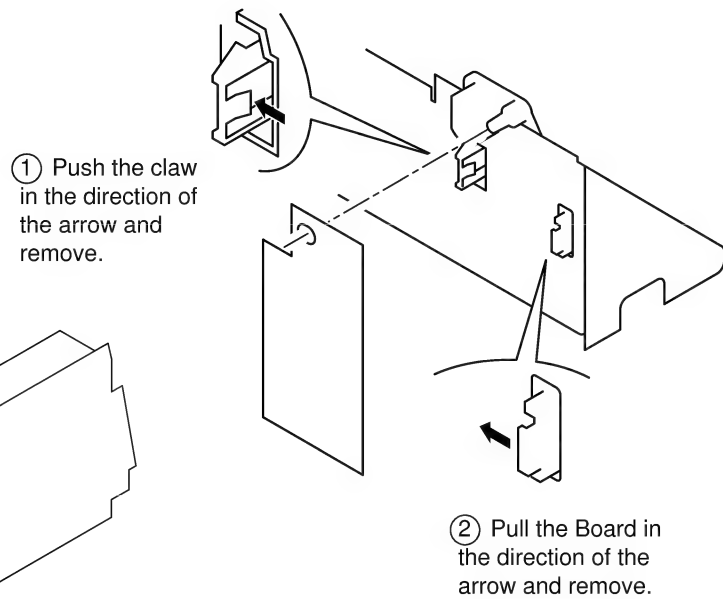
### 2-2. CHASSIS ASSY REMOVAL



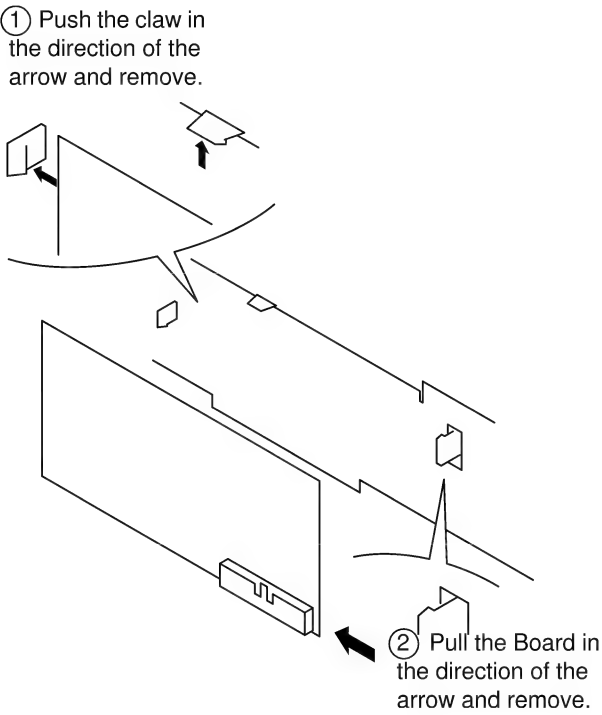
### 2-3. SERVICE POSITION



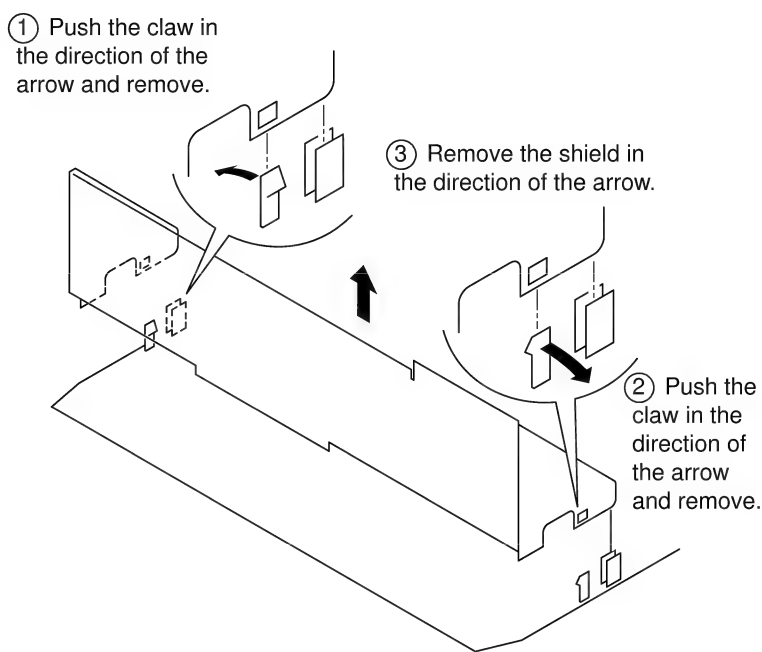
### 2-4. U BOARD REMOVAL



2-5. J BOARD REMOVAL



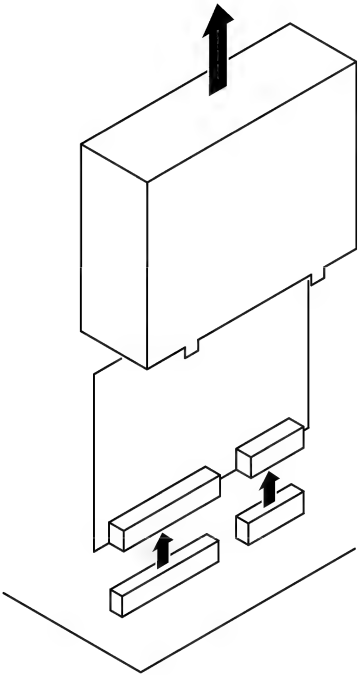
2-6. J SHIELD REMOVAL



2-7. B1 BOARD REMOVAL

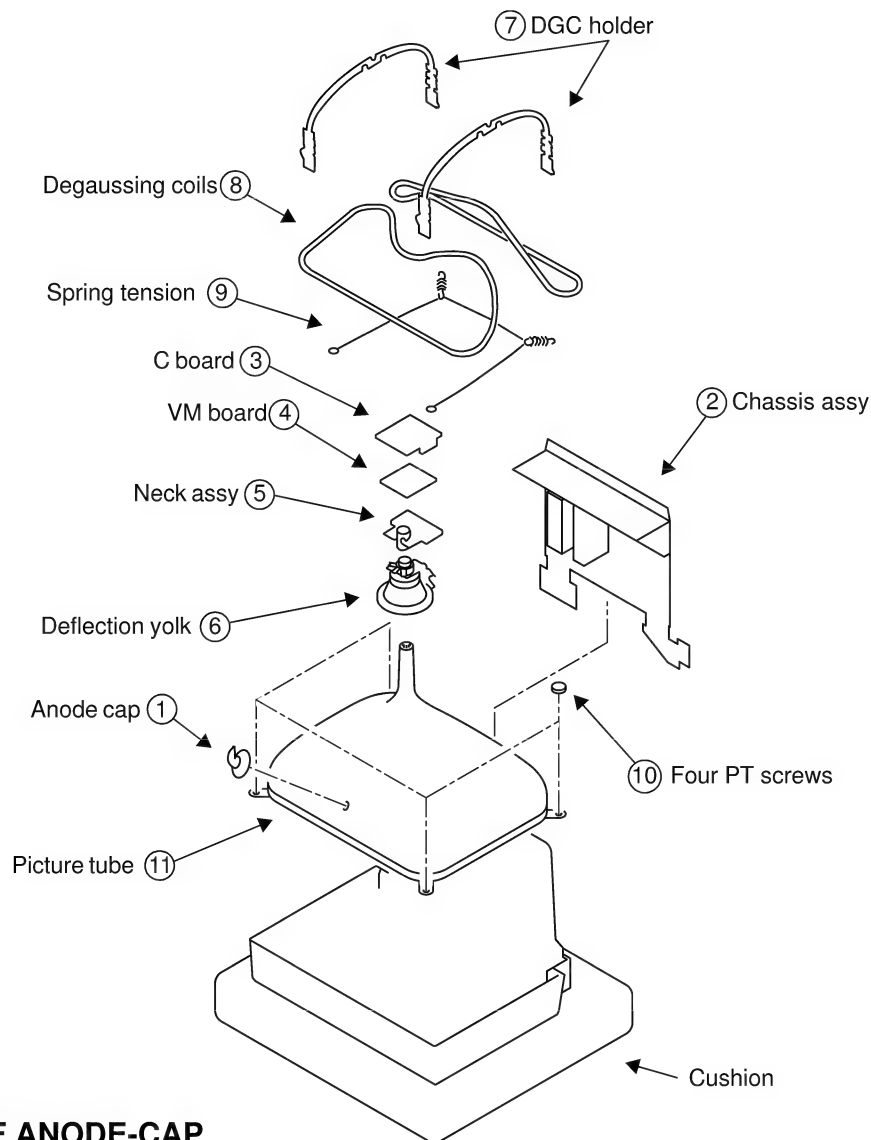
**NOTE**

All other boards are removed in a similar manner to those shown





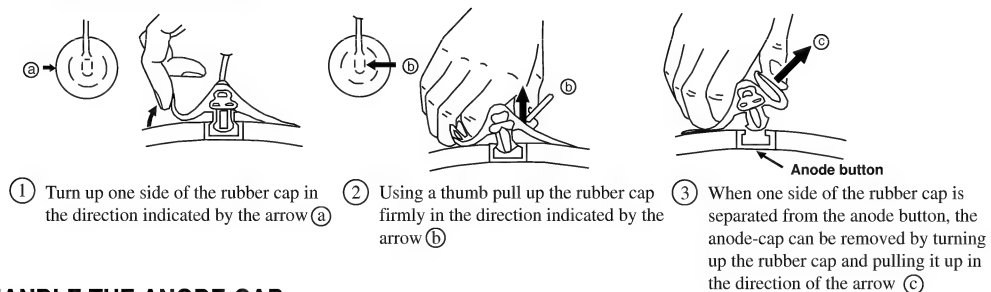
## 2-8. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

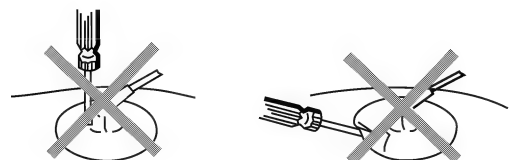
**Note :** Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

#### \* REMOVING PROCEDURES.



### • HOW TO HANDLE THE ANODE-CAP

- ① To prevent damaging the surface of the anode-cap do not use sharp materials.
- ② Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
- ③ A metal fitting called a shatter hook terminal is fitted inside the rubber cap. Do not turn the rubber foot over excessively this may cause damage if the shatter hook sticks out.



## REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

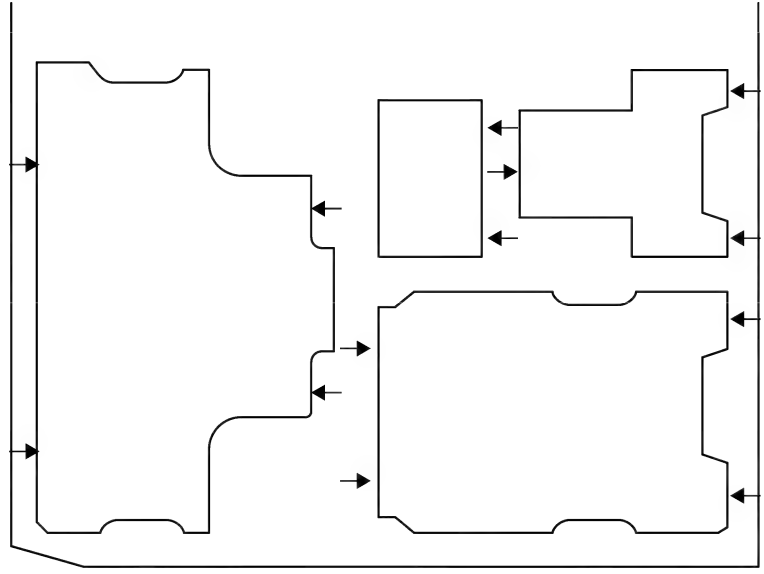
### (1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the D Board printed wiring board, the bottom plates fitted to the main chassis bracket require to be removed.

This is performed by cutting the gates with a sharp wire cutter at the locations indicated by arrows.

**Note :** There are 4 plates fitted to the main bracket and secured by 4 gates.

Only remove the necessary plate to gain access to the printed wiring board.

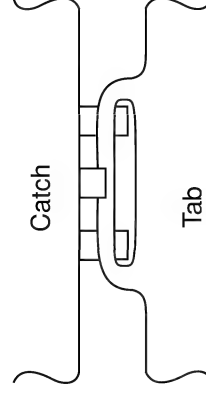


**⚠ For safety reasons, on no account should the plates be removed and not refitted after servicing.**

### (2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from the cut position to allow the tabs to be fitted in the catch positions.



## SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings:

Contrast	.....	normal
Brightness	.....	normal

Carry out the following adjustments in this order:

- 3-1. Beam Landing
- 3-2. Convergence
- 3-3. Focus
- 3-4. White balance

**Note:** Test equipment required

1. Color bar/pattern generator.
2. Degausser.
3. Digital multimeter.
4. Oscilloscope.

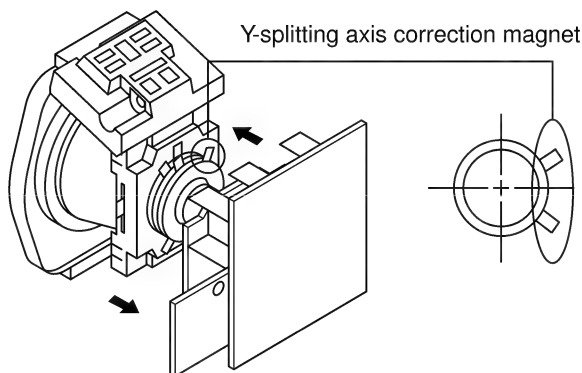
### 3-1. BEAM LANDING

#### Preparation:

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the set's power and degauss with the degausser.

#### (1) Adjustment of Correction Magnet for Y-Splitting Axis

1. Input a crosshatch signal from the pattern generator.
2. Set the Picture control to minimum and confirm that the Brightness control is set to normal.
3. Position the neck assembly as indicated in Fig.3-2.
4. Move the deflection yolk as far forward as is possible.
5. Adjust the upper and lower pin symmetrically by opening or closing the Y-splitting axis correction magnets located on the neck assembly.
6. Return the deflection yolk to its original position.



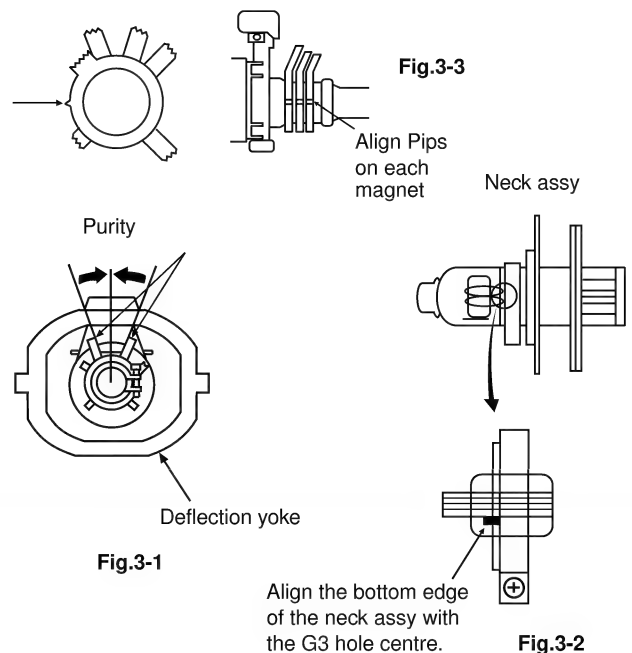
#### Caution :

High voltages are present on the Deflection yolk terminals - take care when handling the Deflection yolk whilst carrying out adjustments.

#### (2) Landing

**Note :** Before carrying out the following adjustments adjust the magnets as indicated below [See Fig.3-3].

1. Input an all-white signal from the pattern generator. Maximize the picture setting and adjust the Brightness setting.
2. Rough-adjust the focus and horizontal convergence.
3. Loosen the deflection yolk screws and align the purity adjustment knob to its central position. [See Fig.3-1].
4. Switch from the all-white pattern to an all-green pattern.
5. Move the deflection yolk backwards and adjust with the purity magnet so that the green is at the centre and it aligns symmetrically. [See Fig.3-4].
6. Move the deflection yolk forward and adjust so that the entire screen becomes green.
7. Switch the raster signal to red, then to blue and verify the landing condition.
8. When the position of the deflection yolk has been determined, fasten the deflection yolk with the screw.
9. If the beam does not land correctly in all the corners of the screen, use magnets to correct it. [See Fig.3-5].



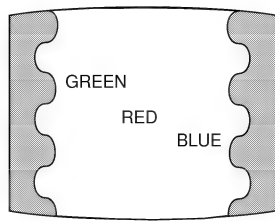


Fig.3-4

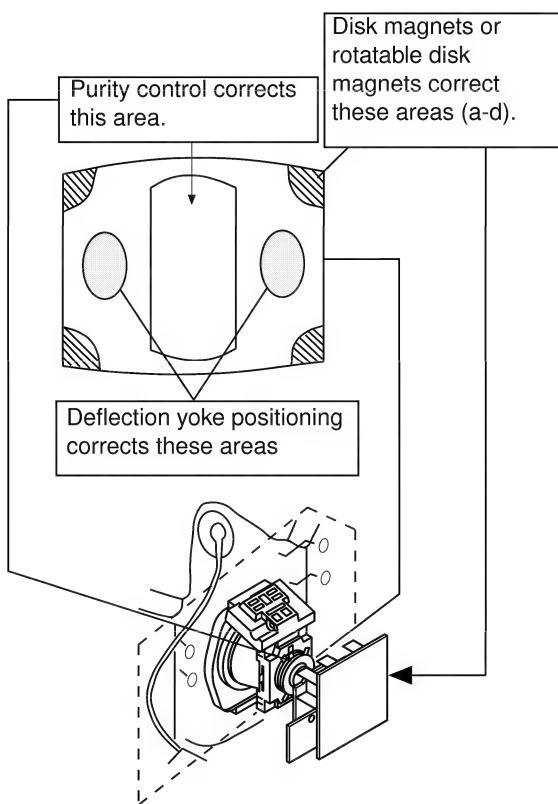
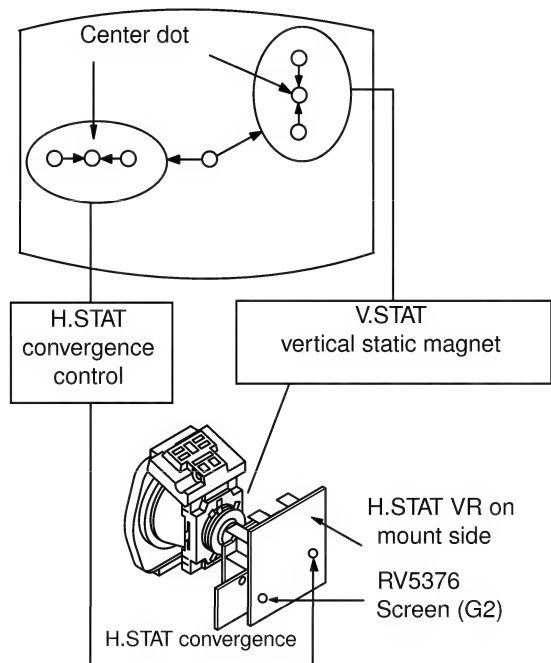


Fig. 3-5

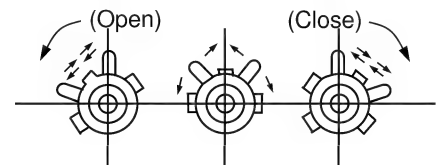
## 3-2. CONVERGENCE

### (1) Screen centre convergence [Static convergence]

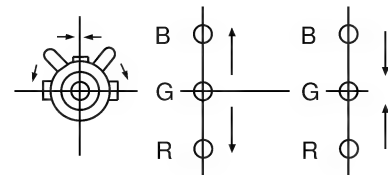
1. Input a dot signal from the pattern generator.  
Normalize the picture setting.
2. [Moving horizontally], adjust the H.STAT control so that the horizontal red, green and blue dots coincide at the centre of the screen.
3. [Moving vertically], adjust the V.STAT magnet so that the vertical red, green and blue dots coincide at the centre of the screen.



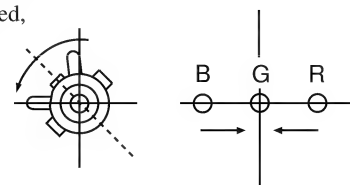
- If the horizontal dots are unable to coincide with the variable range of the H.STAT convergence, adjust together with the V.STAT convergence while tracking.  
[Adjust the convergence by tilting the V.STAT convergence or by opening and closing the V.STAT convergence.]



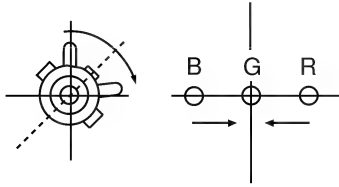
4. Movement of the red, green and blue dots by tilting the V.STAT magnet and by opening or closing the V.STAT magnet.
- a). By opening or closing the V.STAT magnet, the red, green and blue dots move as indicated below.



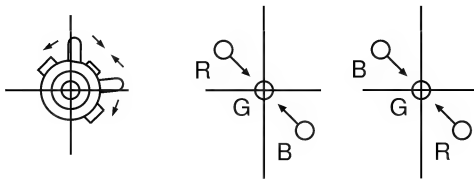
- b). By rotating the V.STAT magnet counter clockwise, the red, green and blue dots move as indicated below.



- c). By rotating the V.STAT magnet clockwise, the red, green and blue dots move in the direction indicated below.



- d). By opening or closing the V.STAT magnet, the red, green and blue dots move in the direction indicated below.

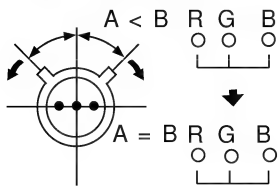


**Note :** If the blue dot does not coincide with the red and green points correct the points by using the BMC [Hexapole] magnet.

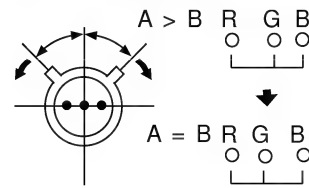
5. Correction for HMC [horizontal mis-convergence] and VMC [vertical mis-convergence] by using the BMC [Hexapole] magnet.

- a). HMC correction by BMC [Hexapole] magnet and movement of the electron beam.

#### HMC correction(A)

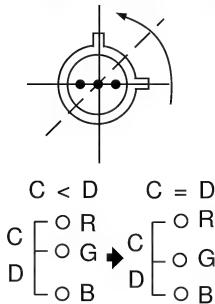


#### HMC correction(B)

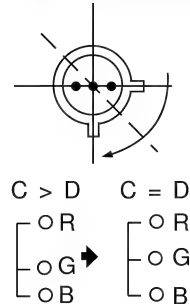


- b). VMC correction by BMC [Hexapole] magnet and movement of the electron beam.

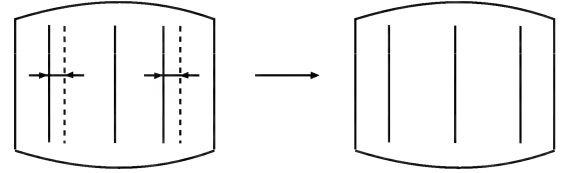
#### VMC correction(A)



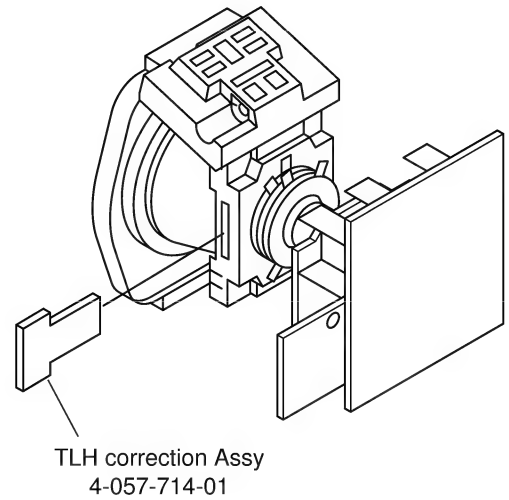
#### VMC correction(B)



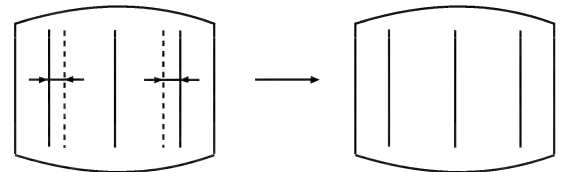
#### HAMP



7. HTIL correction can be performed by adding a THL correction ASSY to the DY.



#### HTIL



## Layout of each control

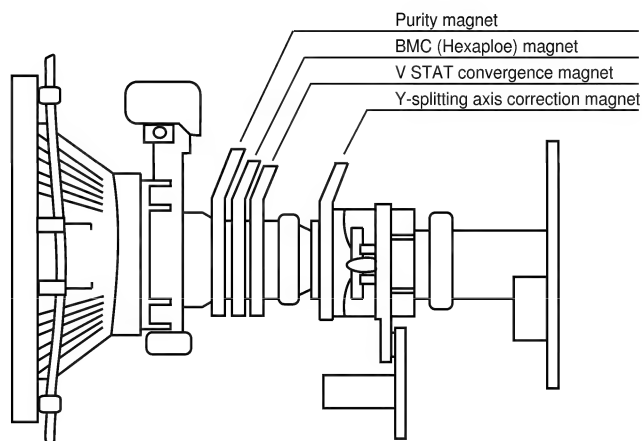
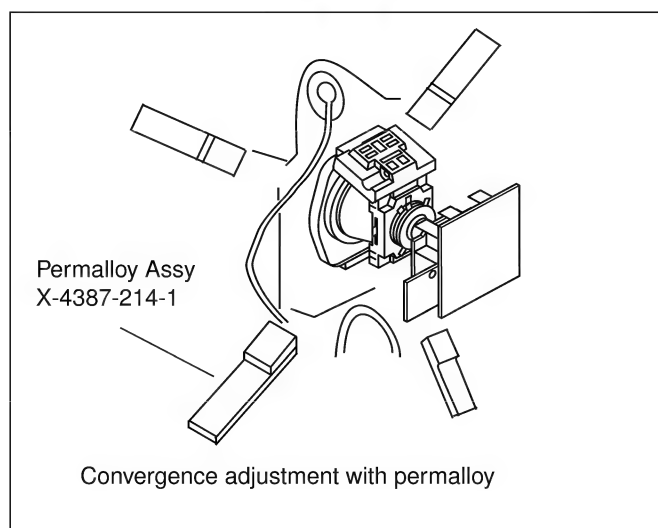
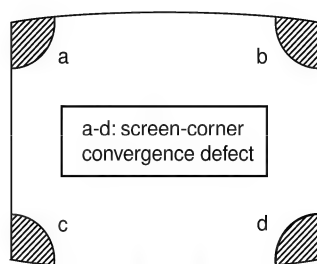


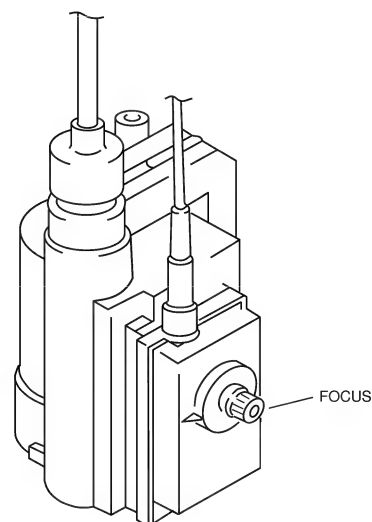
Fig 3-5

**Note :** If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloys.



## 3-3. FOCUS

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen. Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



## 3-4. SCREEN (G2), WHITE BALANCE

[Adjustment in the service mode using the remote commander]

### G2 adjustment (RV5376)

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 175V DC from an external power supply to the R, G and B cathodes of the CRT.
4. Whilst watching the picture, adjust the G2 control RV5376 [SCREEN] located on the C Board to the point just before the flyback return lines disappear.

## White balance adjustment for TV mode

1. Input an all-white signal.
2. Enter into the Service Mode by pressing 'TEST', 'TEST' and 'MENU' 'MENU' on the Service Commander.
3. Select 'Backend' from the on screen menu display and press 'OK'.
4. The 'Backend' menu will appear on the screen.
5. Set the contrast to MAX.
6. Set the 'R DRIVE' to 41.
7. Adjust the 'G DRIVE' and 'B DRIVE' so that the white balance becomes optimum.
8. Press the 'OK' button to write the data for each item.
9. Set the contrast to MIN.
10. Set the 'R CUT-OFF' to 31.
11. Adjust the 'G CUT-OFF', and 'B CUT-OFF' with the left and right buttons on the remote commander so that the white balance becomes optimum.
12. Press the 'OK' button to write the data for each item.

Backend					
No	Descr.	Def	Min	Max	Data
1	R-on	ON	OFF	ON	ON
2	G-on	ON	OFF	ON	ON
3	B-on	ON	OFF	ON	ON
4	D-col	OFF	OFF	ON	ON
5	Color-axis	2	0	3	2
6	Contrast	63	0	63	63
7	Limit-Luv	3	0	3	3
8	Hue	31	0	63	31
9	Colour	31	0	63	28
10	CTI -Level	2	0	3	2
11	Brightness	31	0	63	31
12	Gamma	2	0	3	2
13	Sharpness	31	0	63	44
14	LTI-Level	0	0	3	0
15	R-Drive	41	0	63	40
16	BLK-Bottom	0	0	3	0
17	G-Drive	41	0	63	38
18	ABL-TH	0	0	3	0
19	B-Drive	41	0	63	21
20	ABL-Mode	2	0	3	2
21	Sub Bright	31	0	63	32
22	VM-Level	2	0	3	2
23	R-Cutoff	31	0	63	41
24	Preover	2	0	3	2
25	G-Cutoff	31	0	63	45
26	DPIC-Level	2	0	3	2
27	B-Cutoff	31	0	63	48
28	DC-Tran	1	0	3	1
29	Sub-Cont	7	0	15	7
30	LRGB2-Lvl	12	0	15	12
31	P-Abl	15	0	15	15
32	DL-Pass	OFF	OFF	ON	OFF
33	Sharp.Fo	ON	OFF	ON	ON
34	Aging-W	OFF	OFF	ON	OFF
35	Aging-B	OFF	OFF	ON	OFF
36	CB-offset1	7	0	15	7
37	CR-offset1	7	0	15	7
38	CB-offset2	7	0	15	7
39	CR-offset2	7	0	15	7
40	Sub Colour	0	-8	8	-1



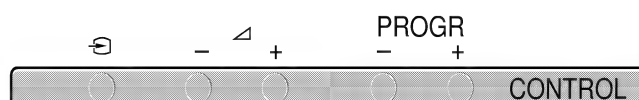
## SECTION 4 CIRCUIT ADJUSTMENTS

### 4-1. ELECTRICAL ADJUSTMENTS

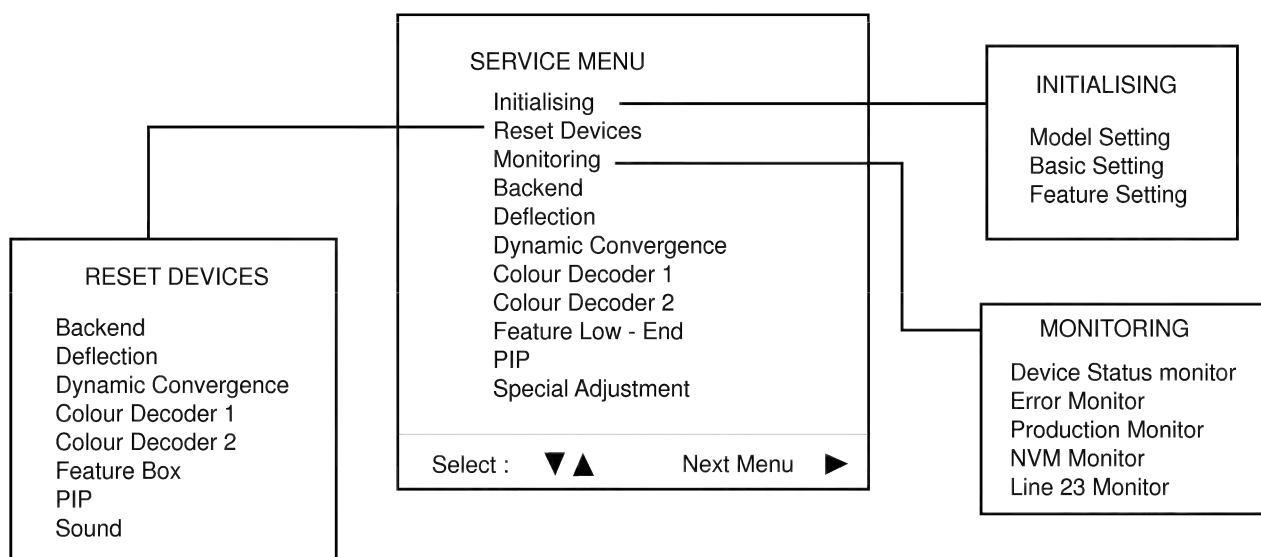
Service adjustments to this model can be performed using the supplied Remote Commander RM-891.

#### HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing PROG + (plus) and PROG - (minus) buttons on the top panel.



2. "TT" will appear in the upper right corner of the screen.
3. Press the 'MENU' button twice on the remote commander to obtain the service menu on the screen.



4. Push the joystick up or down on the remote commander to select the adjustment item.
5. Push the right button to proceed to the next menu.
6. If the required adjustment item is 'Deflection', push the down button to move to 'Deflection'.
7. Push the joystick to the right to enter into 'Deflection'.
8. Change the data in order to comply with each standard.

#### NOTE:

- Before performing any adjustments assure that the correct model has been selected in the Model Setting menu.
- After carrying out the service adjustments, to prevent the customer accessing the Service Menu switch the TV set OFF and then ON.

Model Setting	
1	KV-29FX60A/D/E
2	KV-29FX60B
3	KV-29FX60U
4	KV-29FC60A/D/E
5	KV-29FC60B
6	KV-29FC60K
7	KV-29FC60R
8	KV-29FS60A/D/E
9	KV-29FS60B
10	KV-29FS60K
11	KV-29FS60R
12	KV-28/32FX60A/D/E
13	KV-28/32FX60B
14	KV-28/32FX60K
15	KV-28/32FX60R
16	KV-28/32FX60U
17	KV-29FS60A/D/E
18	KV-29FS60B

Fig.4-1

Basic setting				
No	Descr.	Min	Max	Data
1	Sys.B/G	OFF	ON	ON
2	Sys.D/K	OFF	ON	ON
3	Sys.L	OFF	ON	ON
4	Sys I (UK)	OFF	ON	OFF
5	Sys I (IRL)	OFF	ON	OFF
6	Russian sound	OFF	ON	OFF
7	TXT Nod.option	1	4	3
8	simple PAT	OFF	ON	OFF
9	16:9 CRT	OFF	ON	OFF
10	Sub-woofer	OFF	ON	ON
11	Auto stand-by	OFF	ON	ON
12	comb-filter	OFF	ON	OFF
13	Auto YC det	OFF	ON	ON
14	Auto comb det	OFF	ON	OFF
15	AV2 Available	OFF	ON	ON
16	AV3 Available	OFF	ON	ON
17	AV4 Available	OFF	ON	OFF
18	AV3 Front & rear	OFF	ON	ON
19	SECAM Tape	OFF	ON	OFF

Fig.4-2

**NOTE:**

The above table is dependant on model, destination & size.

Backend					
No	Descr.	Def	Min	Max	Data
1	R-on	ON	OFF	ON	ON
2	G-on	ON	OFF	ON	ON
3	B-on	ON	OFF	ON	ON
4	D-col	OFF	OFF	ON	ON
5	Color-axis	2	0	3	2
6	Contrast	63	0	63	63
7	Limit-Luv	3	0	3	3
8	Hue	31	0	63	31
9	Colour	31	0	63	28
10	CTI -Level	2	0	3	2
11	Brightness	31	0	63	31
12	Gamma	2	0	3	2
13	Sharpness	31	0	63	44
14	LTI-Level	0	0	3	0
15	R-Drive	41	0	63	40
16	BLK-Bottom	0	0	3	0
17	G-Drive	41	0	63	38
18	ABL-TH	0	0	3	0
19	B-Drive	41	0	63	21
20	ABL-Mode	2	0	3	2
21	Sub Bright	31	0	63	32
22	VM-Level	2	0	3	2
23	R-Cutoff	31	0	63	41
24	Preover	2	0	3	2
25	G-Cutoff	31	0	63	45
26	DPIC-Level	2	0	3	2
27	B-Cutoff	31	0	63	48
28	DC-Tran	1	0	3	1
29	Sub-Cont	7	0	15	7
30	LRGB2-Lvl	12	0	15	12
31	P-Abl	15	0	15	15
32	DL-Pass	OFF	OFF	ON	OFF
33	Sharp.Fo	ON	OFF	ON	ON
34	Aging-W	OFF	OFF	ON	OFF
35	Aging-B	OFF	OFF	ON	OFF
36	CB-offset1	7	0	15	7
37	CR-offset1	7	0	15	7
38	CB-offset2	7	0	15	7
39	CR-offset2	7	0	15	7
40	Sub Colour	0	-8	8	-1

Fig.4-3

Feature setting				
No	Descr.	Min	Max	Data
1	PIP	OFF	ON	ON

Fig.4-4

Colour Decoder 1					
No	Descr.	Def	Min	Max	Data
1	DelayLinMd	OFF	OFF	ON	OFF
2	Gain set	1	0	3	1
3	Y-Delay	7	0	15	7
4	Phase Time	0	0	3	0
5	Vid Ident Md	OFF	OFF	ON	OFF
6	Sync Mode	OFF	OFF	ON	OFF
7	Vid Ident Sw	ON	OFF	ON	ON
8	H-Output	OFF	OFF	ON	OFF
9	Enagating	OFF	OFF	ON	OFF
10	IF Circuit	ON	OFF	ON	ON
11	GP Delay	OFF	OFF	ON	OFF

Fig.4-5

Colour Decoder 2					
No	Descr.	Def	Min	Max	Data
1	DelayLinMd	OFF	OFF	ON	OFF
2	Gain set	1	0	3	1
3	Y-Delay	7	0	15	7
4	Phase Time	0	0	3	0
5	Vid Ident Md	OFF	OFF	ON	OFF
6	Sync Mode	OFF	OFF	ON	OFF
7	Vid Ident Sw	ON	OFF	ON	ON
8	H-Output	OFF	OFF	ON	OFF
9	Enagating	OFF	OFF	ON	OFF
10	IF Circuit	ON	OFF	ON	ON
11	GP Delay	OFF	OFF	ON	OFF

Fig.4-6

Deflection					
No	Descr.	Def	Min	Max	Data
1	V-Size	31	0	63	34
2	V-Position	31	0	63	21
3	V-Comp	1	0	3	1
4	V-Linear	7	0	15	7
5	S-Corr	7	0	15	8
6	H-Size	31	0	63	29
7	EW-DC	OFF	OFF	ON	OFF
8	Pin-Amp	31	0	63	36
9	Up-Cpin	31	0	63	35
10	M-Pin	2	0	3	2
11	Lo-Cpin	31	0	63	37
12	Trapezium	7	0	15	7
13	H-Position	31	0	63	25
14	AFC-Bow	7	0	15	7
15	AFC-Angle	7	0	15	9
16	Up-Vlin	0	0	15	0
17	Lo-Vlin	0	0	15	0

Fig.4-7

Dynamic Convergence					
No	Descr.	Def	Min	Max	Data
1	Range	63	0	63	32
2	H Stat	33	0	63	33
3	H amp L	37	0	63	37
4	H amp R	36	0	63	36
5	Up Y	31	0	63	31
6	Low Y	33	0	63	33
7	Y Up L	30	0	63	30
8	Y Up R	30	0	63	30
9	Y Low L	31	0	63	31
10	Y Low R	30	0	63	30
11	Mbow Up L	31	0	63	31
12	Mbow Up R	32	0	63	32
13	Mbow Low L	32	0	63	32
14	Mbow Low R	32	0	63	32
15	V Stat	32	0	63	32
16	Linearity	128	0	255	104
17	H Centre	32	0	63	32
18	H Trap	32	0	63	32
19	Rotation	0	0	255	0
20	Focus Phase	128	0	255	128

Fig.4-8

Feature Low-End					
No	Descr.	Def	Min	Max	Data
1	F.S.F.M	OFF	OFF	ON	OFF
2	G-Mode	OFF	OFF	ON	OFF
3	Picture Pos	0	0	3	0
4	Comp Mode	OFF	OFF	ON	OFF
5	CompSW	OFF	OFF	ON	OFF
6	Acqu.freq	OFF	OFF	ON	OFF
7	Still Pic	OFF	OFF	ON	OFF
8	Init	OFF	OFF	ON	OFF
9	Dis Feature	ON	OFF	ON	ON
10	Dis Vlimit	ON	OFF	ON	ON
11	Scr Fade	0	0	3	0
12	Hwe Delay	20	0	255	20
13	Auto Vshift	OFF	OFF	ON	OFF
14	Vwe Delay	0	0	127	0
15	SFR sw	OFF	OFF	ON	OFF
16	IPQ	0	0	3	0
17	D.Col Dec	OFF	OFF	ON	OFF
18	Blankfield	0	0	15	0
19	P1.5	OFF	OFF	ON	OFF
20	P1.4	OFF	OFF	ON	OFF
21	P1.3	OFF	OFF	ON	OFF
22	P1.2	OFF	OFF	ON	OFF
23	P1.1	OFF	OFF	ON	OFF
24	Set Vdba	OFF	OFF	ON	OFF
25	Set Sidep	ON	OFF	ON	ON
26	Set Hwe	OFF	OFF	ON	OFF
27	Set Clv	OFF	OFF	ON	OFF
28	Set Hddel	OFF	OFF	ON	OFF
29	Set Hblnd	OFF	OFF	ON	OFF
30	Set Hre	ON	OFF	ON	ON
31	Set Hbda	ON	OFF	ON	ON
32	Set Hdav	ON	OFF	ON	ON
33	Vbdasta	0	0	255	0
34	Vsdasto	0	0	255	0
35	Msbhwesto	OFF	OFF	ON	OFF
36	Msbhwesta	OFF	OFF	ON	OFF
37	Msbvbdasto	OFF	OFF	ON	OFF
38	Msbvbdasta	OFF	OFF	ON	OFF
39	Hdavsta	40	0	255	40
40	Hdavsto	255	0	255	255

Feature Low-End(Cont.)					
No	Descr.	Def	Min	Max	Data
41	Hbdasta	223	0	255	223
42	Hbdasto	222	0	255	222
43	Hresta	38	0	255	38
44	Hresto	202	0	255	202
45	Hblndsta	31	0	255	31
46	Hblndsto	30	0	255	30
47	MsbHblndsta	OFF	OFF	ON	OFF
48	MsbHblndsto	OFF	OFF	ON	OFF
49	Msb Hresto	ON	OFF	ON	ON
50	Msb Hresta	OFF	OFF	ON	OFF
51	Msbhbdasta	ON	OFF	ON	ON
52	Msbhbdasto	ON	OFF	ON	ON
53	Msbhdavsto	ON	OFF	ON	ON
54	Msbhdavsta	OFF	OFF	ON	OFF
55	Hddel	0	0	15	0
56	Clvsta	0	0	255	0
57	Clvsto	9	0	255	9
58	Hwesta	44	0	255	44
59	Hwesto	208	0	255	208
60	Ex-Thres	OFF	OFF	ON	OFF
61	Wes	ON	OFF	ON	OFF
62	Demo mode	ON	OFF	ON	OFF
63	Limerick NR	0	0	4	0
64	Nthr	0	0	255	2
65	Wval	200	0	255	200
66	Agc Ych	203	0	255	203
67	Agc Uvch	209	0	255	209
68	Aal-Bypass	OFF	OFF	ON	OFF
69	Stby Fr	OFF	OFF	ON	OFF
70	Lsb Agc-Uv	OFF	OFF	ON	OFF
71	Lsb Agc-Y	OFF	OFF	ON	OFF
72	Vcl cor	0	0	3	0
73	Ucl cor	0	0	3	0
74	Uv cor mode	0	0	3	0
75	Uvcl tau	3	0	3	3
76	Uvcol Lvl	0	0	3	0
77	Fil Mem	OFF	OFF	ON	OFF
78	Overl Thr	1	0	3	1
79	Y delay f	4	0	7	4
80	Dcti pdxsel	ON	OFF	ON	ON

Fig.4-9

Feature Low-End (Cont.)					
No	Descr.	Def	Min	Max	Data
81	Dcti Thres	0	0	15	0
82	Dcti Gain	0	0	7	0
83	Dcti Super	ON	OFF	ON	ON
84	Dcti Fil	ON	OFF	ON	ON
85	Dcti Prot	ON	OFF	ON	ON
86	Dcti Sep	ON	OFF	ON	ON
87	Dcti Limit	2	0	3	2
88	Peak Beta	0	0	7	0
89	Peak Alpha	2	0	7	2
90	Peak Neg g	0	0	3	0
91	Peak Delta	0	0	3	0
92	Peak Tau	0	0	7	0
93	Peak Corth	0	0	15	0
94	Overlay V	0	0	15	0
95	Overlay U	0	0	15	0
96	Overlay Y	10	0	255	10
97	Sidep sta	240	0	255	240
98	Sidep sto	36	0	255	36
99	Y delay B	7	0	7	7
100	Invert UV	ON	OFF	ON	ON
101	Output Range	ON	OFF	ON	ON
102	Sidep Fdel	0	0	3	0

PIP					
No	Descr.	Def	Min	Max	Data
1	Freeze	OFF	OFF	ON	OFF
2	Frame	ON	OFF	ON	ON
3	Pipon	ON	OFF	ON	OFF
4	Seldel	1	0	15	1
5	Mixdis	ON	OFF	ON	ON
6	H-Poshi	0	0	3	0
7	H-Pos	137	0	255	137
8	V-Pos	59	0	255	59
9	Y-Delay	0	0	7	0
10	V-Dec	OFF	OFF	ON	OFF
11	H-Dec	OFF	OFF	ON	OFF
12	Insvh	ON	OFF	ON	ON
13	Chrins	ON	OFF	ON	ON
14	Pmod	0	0	3	0
15	Imod	0	0	3	0
16	Clisw	ON	OFF	ON	ON
17	H side	4	0	15	4
18	Vsiisq	OFF	OFF	ON	OFF
19	Vsidel	0	0	31	0
20	Parasynd	ON	OFF	ON	ON
21	Vspisq	OFF	OFF	ON	OFF
22	Vspdel	10	0	31	10
23	Con	1	0	15	1
24	Fry	8	0	15	8
25	Frv	3	0	15	3
26	Fru	4	0	15	4
27	Sel Down	OFF	OFF	ON	OFF
28	Frwidv	1	0	3	1
29	Frwidth	2	0	7	2
30	Mat	4	0	7	4
31	Daconst	OFF	OFF	ON	OFF
32	PlItc	1	0	3	1
33	Dacontle	OFF	OFF	ON	OFF
34	Left	83	0	255	83
35	RightHi	1	0	3	1
36	Right	192	0	255	192
37	Up	46	0	255	46
38	Down	189	0	255	189

Fig.4-10

Sound					
No	Descr.	Def	Min	Max	Data
1	Ref.Level	40	0	20	40
2	Auto-gain	ON	OFF	ON	ON
3	Ana-in	0	0	1	0
4	Corr-mute	ON	OFF	ON	ON
5	Clock out	ON	OFF	ON	ON
6	AM-gain	ON	OFF	ON	ON
7	Clip mode	0	0	2	0
8	SCART1 Vol	79	0	127	79
9	SCART2 Vol	79	0	127	79
10	SCART Pr	27	0	127	27
11	Izs1-pr	16	0	127	16
12	Izs2-pr	16	0	127	16
13	FM pr	27	0	127	27
14	BG Nic-pr	53	0	127	53
15	L Nic-pr	59	0	127	59
16	DK Nic-pr	53	0	127	53
17	I Nic-pr	97	0	127	97
18	Irl Nic-pr	97	0	127	97
19	AVC-Decay	2	0	8	2
20	Subw-vol	0	0	-127	0
21	Subw-freq	20	5	40	20
22	Subw-Hpuss	OFF	OFF	ON	OFF
23	Spat-stre	127	0	-1	127
24	Spat-Coeff	0	0	8	0
25	Bass offs	0	-3	3	0
26	Treble offs	0	-3	3	0
27	Loudn offs	0	0	9	0
28	Hp-voloffs	-2	-5	5	-2
29	M-S Limit	30	-128	127	30
30	M-B Limit	-30	-128	127	-30
31	S-M Limit	12	-128	127	12
32	S-B Limit	-20	-128	127	-20
33	B-M Limit	-12	-128	127	-12
34	B-S Limit	20	-128	127	20
35	Err.Max	40	0	255	40
36	Err.Min	14	0	255	18

Fig.4-11

Special Adjustment				
No	Descr.	Min	Max	Data
1	RGB Level	0	7	0
2	RGB Gain	0	31	9
3	RGB PatLevel	0	7	7
4	RGB Patgain	0	31	31
5	RGB H-position	-10	10	-1
6	Extra Fw	0	255	255
7	EPG Chks Check	OFF	ON	ON
8	Slicer High	OFF	ON	ON
9	FCW Wide	OFF	ON	ON
10	High PII	OFF	ON	OFF
11	Panic offset	0	2	0
12	Wide Mute	OFF	ON	ON

Fig.4-12

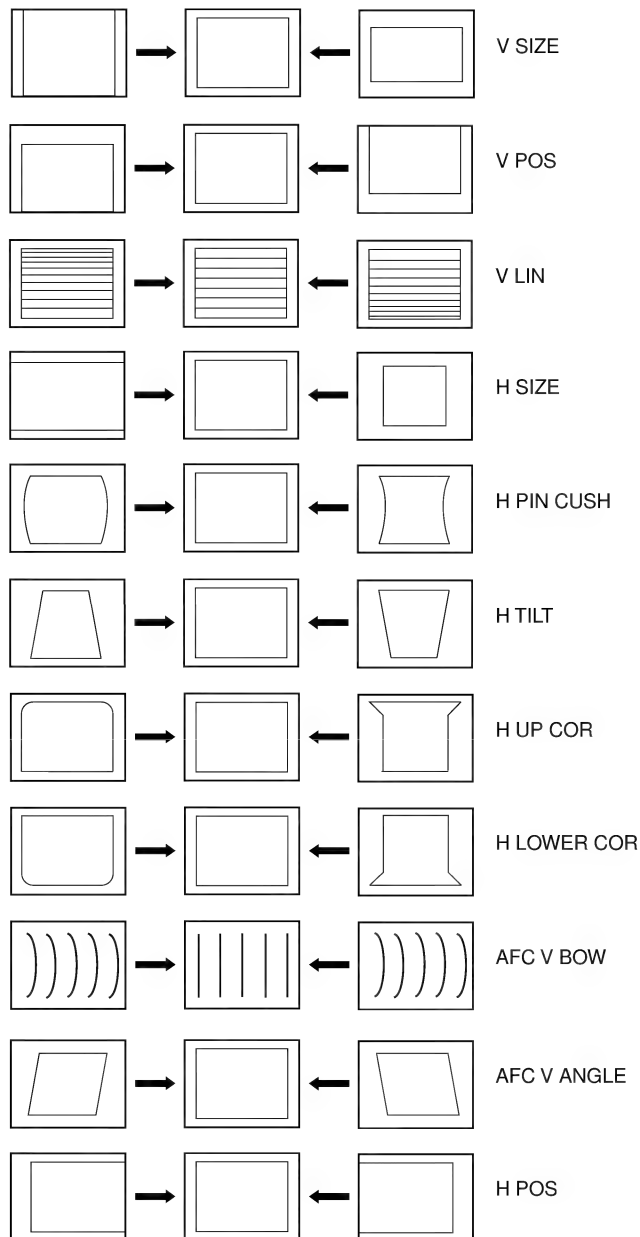
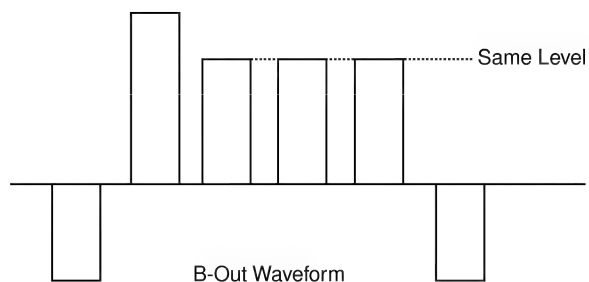
## DEFLECTION SYSTEM ADJUSTMENT

1. Enter into the service mode and select 'Deflection '. The 'Deflect ' adjustment menu will be displayed.
2. Select and adjust each item to obtain the optimum image.

## 4-2.VOLUME ELECTRICAL ADJUSTMENTS

### Sub Colour Adjustment

1. Input a PAL colour bar signal.
2. Connect an oscilloscope to CN5400 pin 5 on the C board.
3. Enter into the 'SERVICE MODE'.
4. Choose 'Backend'.
5. Adjust Sub Colour data so that the right sides of the waveforms are of equal height.





### 4-3. TEST MODE 2:

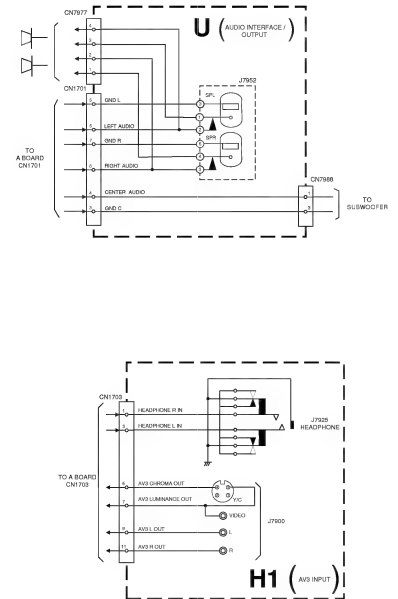
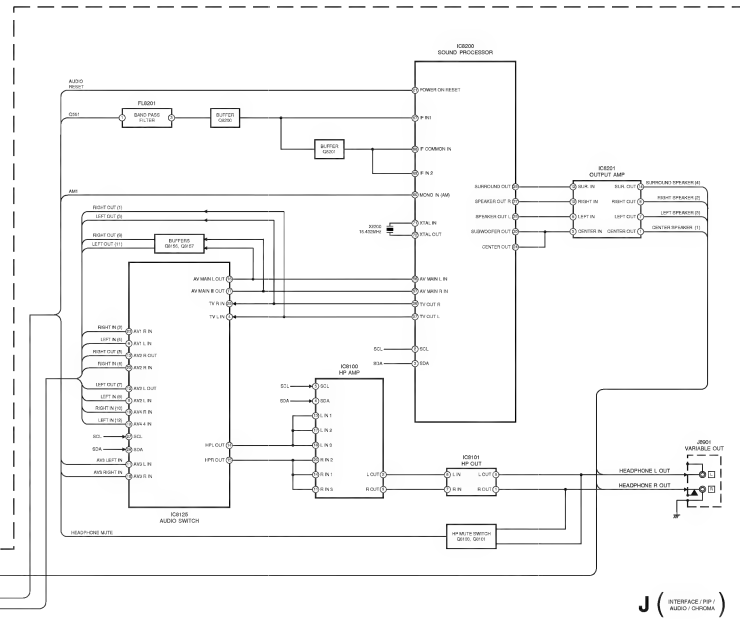
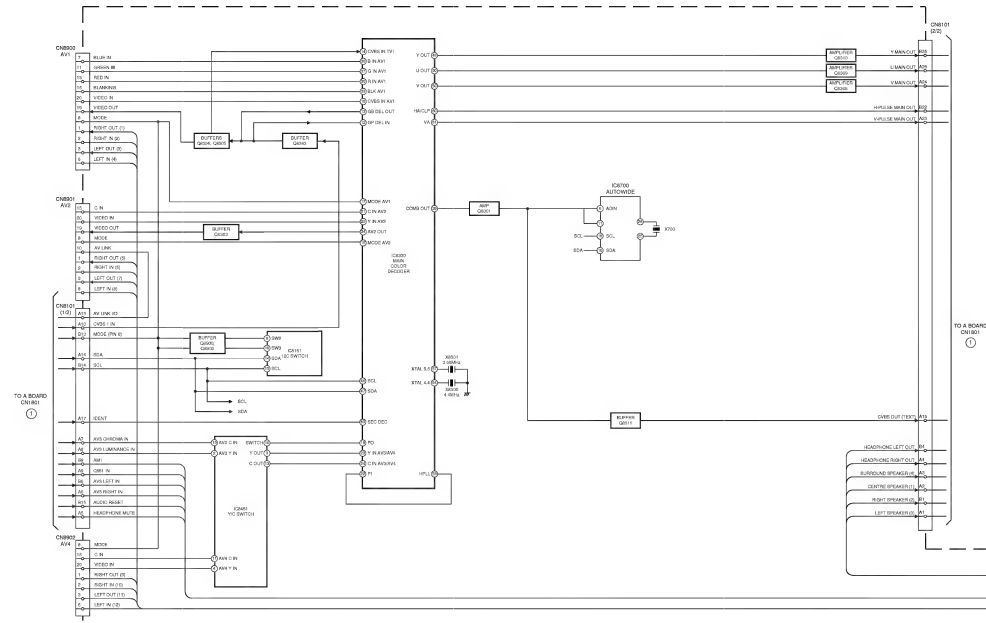
Is available by pressing 'TEST' button twice, OSD 'TT' appears. The functions described below are available by pressing the two numbers. To release the Test mode 2, press 0, 10, 20 ... twice or switch the TV set into Stand-by Mode. Pressing the two Local Control buttons ( + and - ) during Power ON will also switch into 'TT' mode.

In 'TT' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the menu to reappear. The Function is kept even when the menu is not displayed !!.

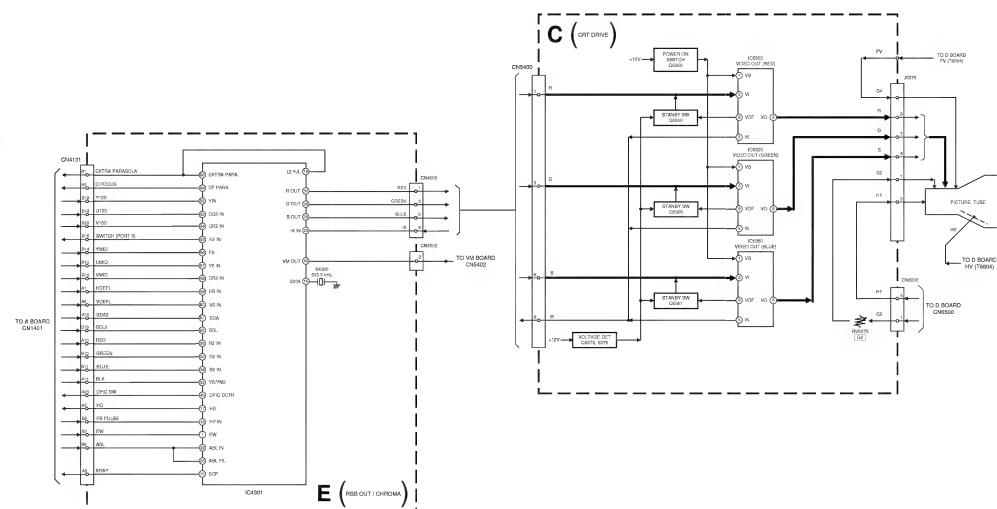
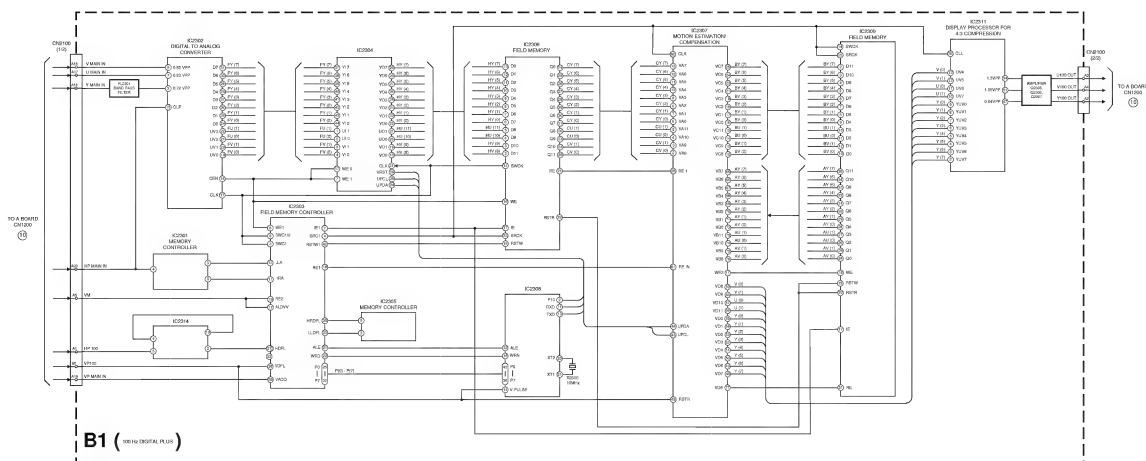
00	Switch back to normal mode - 'TT' mode off
01	Set picture maximum
02	Set picture minimum
03	Set speaker/headphone Volume to 30%
04	Set speaker/headphone Volume to 50%
05	Set speaker/headphone Volume to 65%
06	Set speaker/headphone Volume to 80%
07	Ageing Mode
08	Shipping Condition
09	Language Reset
10	No function
11	Sub picture adjustment
12	Sub colour adjustment
13	Display software version and TV set configuration
14	Production Info Display
15	Picture Rotation
16	Picture level 50%
17	Audio mute on
18	No function
19	Sub brightness adjustment
20	See 'TT10'
21	Destination A includes text settings, display TV status
22	Destination L includes text settings, display TV status
23	Destination E includes text settings, display TV status
24	Destination U includes text settings, display TV status
25	Destination D includes text settings, display TV status
26	Destination B includes text settings, display TV status
27	Destination K includes text settings, display TV status
28	Destination R includes text settings, display TV status
30	See 'TT10'
31	Geometry Adjustment 1
32	Geometry Adjustment 2
33	Error monitor
34	No function
35	CRT 4:3 < > 16:9 ; Display TV status
36	Line 23 detection switch
37	Velocity Modulation (VM) test
38	No function
39	No function
40	See 'TT10'

41	Screen mode check
42	Re initialise geometry
43	No function
44	No function
45	No function
46	Reserved for dealer commander
47	Re initialise NVM
48	Set NVM as non virgin
49	Set NVM as virgin
50	See 'TT10'
51	Set Dolby volume to 90%
52	Dolby on left speaker only
53	Dolby on right speaker only
54	Dolby on left centre only
55	Dolby on surround speaker only
56 - 59	No function
60	See 'TT10'
61	Service mode
62	Production mode
65	Reset error codes
68	Ignore errors on
69	Ignore errors off
70	See 'TT10'
71 - 72	No function
73	Clear programs
74 - 79	No function
80	See 'TT10'
81	PAP H adjustment left image
82	PAP H adjustment right image
83 - 86	No function
87	Personal ID reset
88	Parental Lock off
89	No function
90	See 'TT10'

## 5-1 BLOCK DIAGRAMS (1)



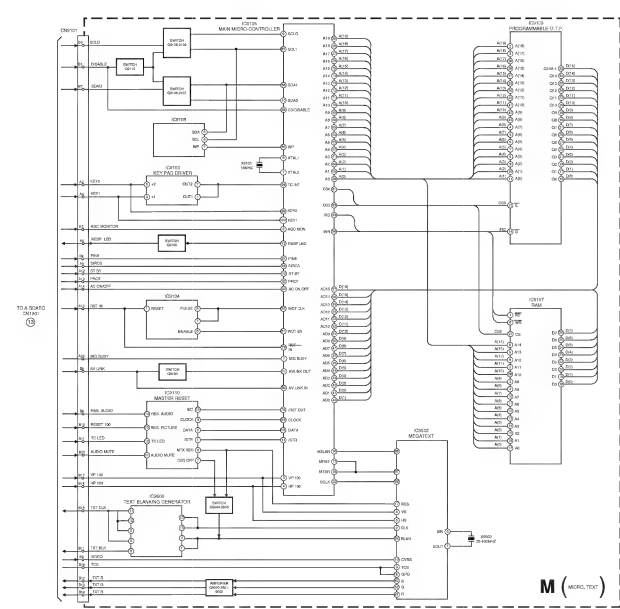
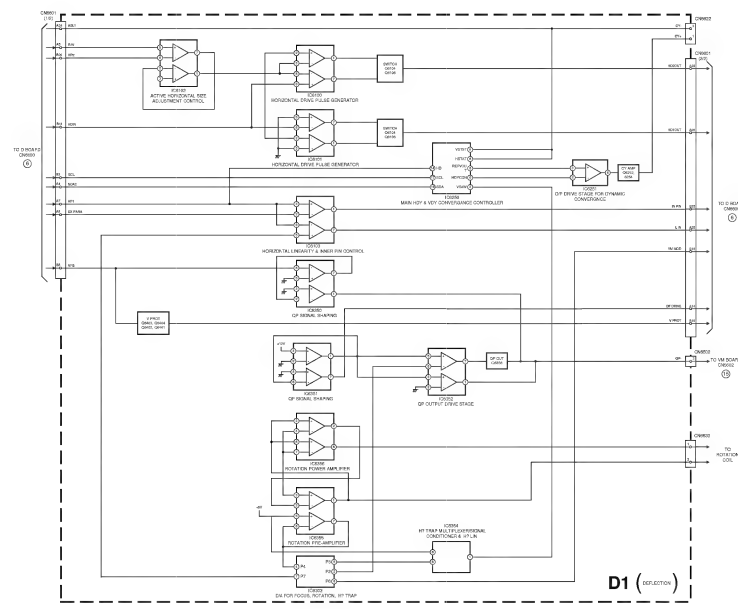
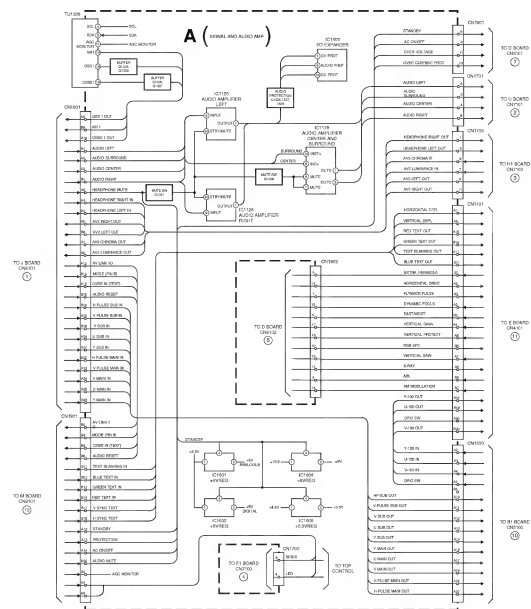
## 5-1 BLOCK DIAGRAMS (2)



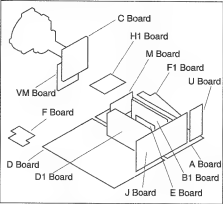
## 43



BLOCK DIAGRAMS (4)



5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.
- $\mu\text{F}$  :  $\mu\text{F}$  500V or less are not indicated except for electrolytic types.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

- Pinch 5mm  
Electrical power rating : 1/4W
- Chip resistors are 1/10W
  - All resistors are in ohms.
  - k = 1000 ohms, M = 1000,000 ohms
  - : nonflammable resistor.
  - : fusible resistor.
  - : internal component.
  - : panel designation or adjustment for repair.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10k $\Omega$ cm digital multimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerances.

- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

Reference Information

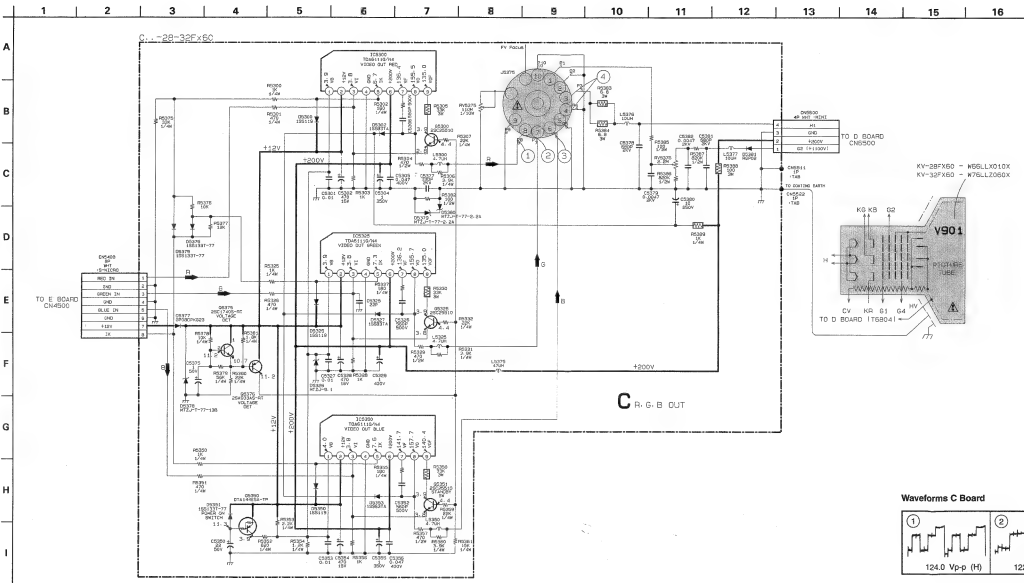
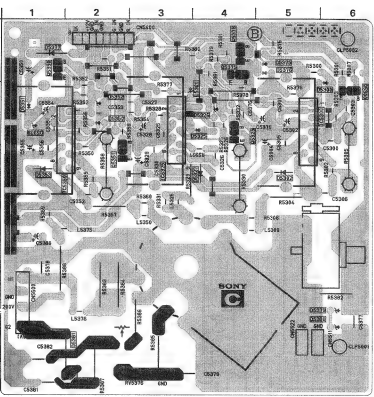
RESISTOR	RN	METAL FILM
	RC	SOLID
FUSE	FPFD	NON FLAMMABLE CARBON
	FBS	NON FLAMMABLE FUSIBLE
NB	NB	NON FLAMMABLE METAL OXIDE
	NB	NON FLAMMABLE CEMENT
RW	RW	NON FLAMMABLE WIREWOUND
	ADJ	ADJUSTMENT RESISTOR
COIL	LF-BL	MICRO INDUCTOR
	TA	TANTALUM
CAPACITOR	PS	STYROL
	PP	POLYPROPYLENE
PT	PT	MYLAR
	MPS	METALIZED POLYESTER
MPP	MPP	METALIZED POLYPROPYLENE
	ALB	BIPOLAR
ALT	ALT	HIGH TEMPERATURE
	ALR	HIGH RIPPLE

Note : The components identified by shading and marked  $\Delta$  are critical for safety. Replace only with the part numbers specified in the parts list.

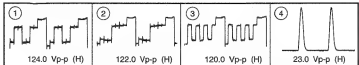
Note : Les composants identifiés par une trame et marqués  $\Delta$  sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

C [ RGB OUT ]

C Board



Waveforms C Board



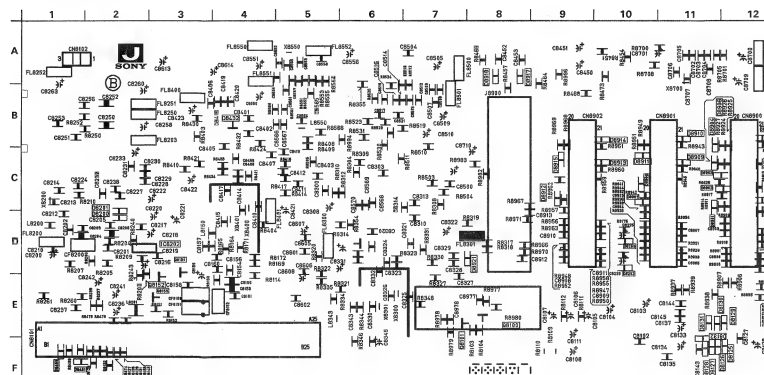
IC	
IC5500	B-5
IC5505	C-3
IC5500	C-1
TRANSISTOR	
Q5300	B-5
Q5305	B-5
Q5300	A-1
Q5301	O-2
Q5375	A-4
Q5376	A-4
DIODE	
DS300	B-6
DS602	C-5
DS603	B-4
DS606	B-4
DS627	C-4
DS690	B-2
DS651	B-1
DS353	C-1
DS375	A-5
DS376	A-5
DS377	A-1
DS378	B-1
DS379	E-5
DS380	E-5
DS381	F-2

# J BOARD

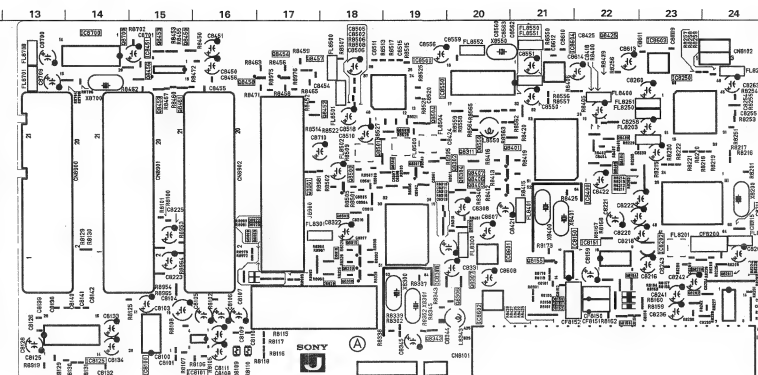
IC	Q401 B - 15
IC8100 F - 15	Q800 D - 16
IC8101 F - 15	Q801 C - 17
IC8105 F - 14	Q803 D - 16
IC8151 D - 22	
IC8201 E - 24	D8125 F - 12
IC8202 D - 23	D8126 F - 12
IC8203 E - 19	D8127 F - 11
IC8400 C - 22	D8128 F - 11
IC8451 A - 15	D8129 E - 12
IC8500 B - 19	D8130 E - 12
IC8601 D - 20	D8131 E - 11
IC8602 E - 20	D8200 D - 2
IC8603 A - 23	D8201 D - 2
IC8604 A - 21	D8202 E - 10
	D8203 D - 10
TRANSISTOR	
Q8200 E - 23	D8452 B - 4
Q8201 E - 24	D8453 F - 1
Q8202 E - 23	D8451 F - 1
Q8303 C - 19	D8600 C - 20
Q8304 C - 20	D8600 C - 12
Q8305 D - 20	D8602 C - 11
Q8307 D - 18	D8603 C - 11
Q8308 E - 16	D8604 B - 11
Q8309 E - 16	D8605 B - 12
Q8310 D - 18	D8606 B - 12
Q8311 C - 20	D8607 C - 10
Q8343 F - 19	D8608 C - 10
Q8400 B - 22	D8609 C - 11
Q8401 C - 20	D8910 B - 11
Q8403 C - 22	D8911 C - 10
Q8404 C - 22	D8912 C - 9
Q8405 C - 20	D8913 C - 10
Q8406 C - 20	D8914 B - 10
Q8407 C - 20	D8915 C - 9
Q8425 A - 22	D8922 D - 16
Q8460 A - 15	D8923 D - 16
Q8463 A - 15	
Q8466 A - 15	
Q8469 B - 15	

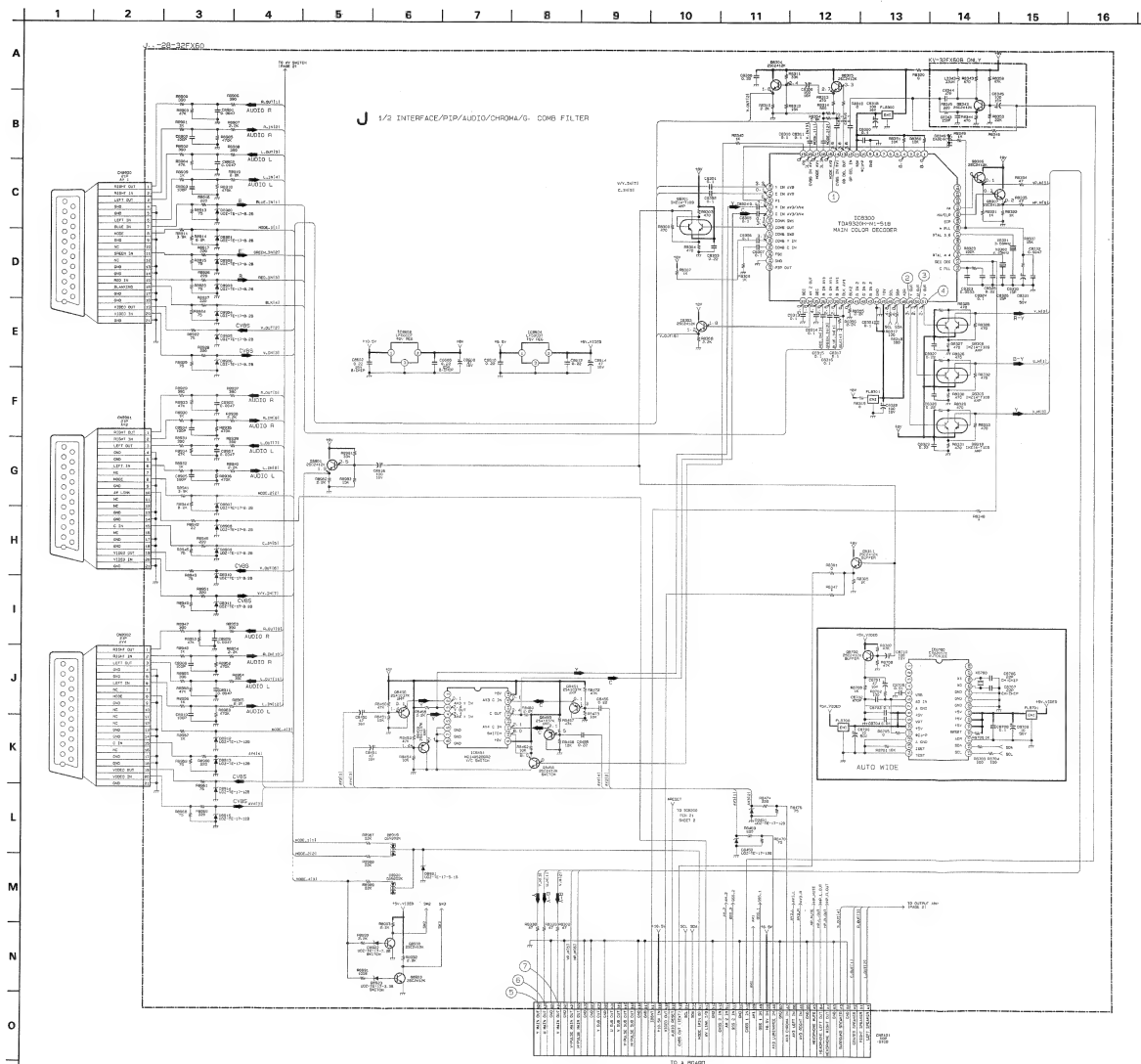
J INTERFACE / PP /  
AUDIO / CHROMA

J Board <Conductor Side>



J Board <Component Side>

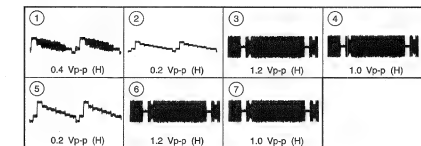




J BOARD MARK

Pin	28FX00A	28FX00B	28FX00C	28FX00E	28FX00K	28FX00R	28FX00U	28FX00A	28FX00B	28FX00D	28FX00E	28FX00K	28FX00R	28FX00U
R0347	-	-	-	-	-	-	-	-	100	-	-	-	-	-
R0348	-	-	-	-	-	-	-	-	@SHORT 0	-	-	-	-	-

Waveforms J1(1/2) Board

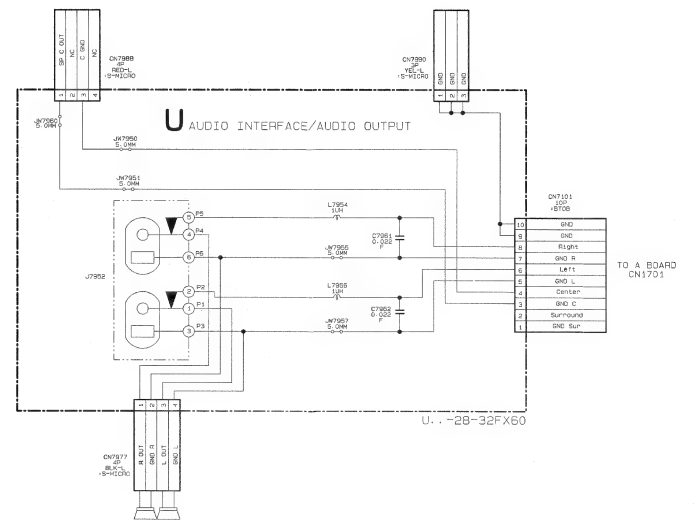
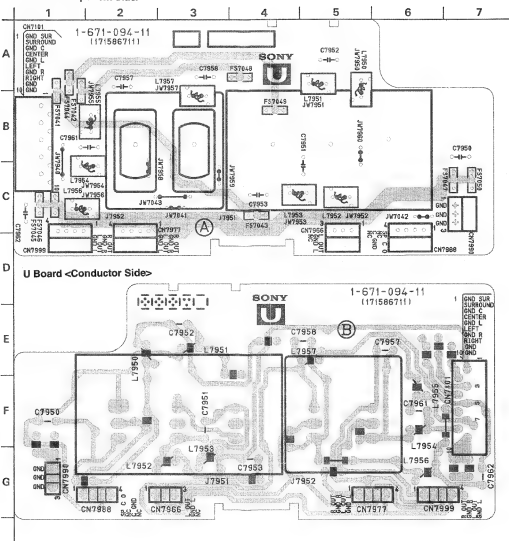






U

E Board &lt;Component Side&gt;

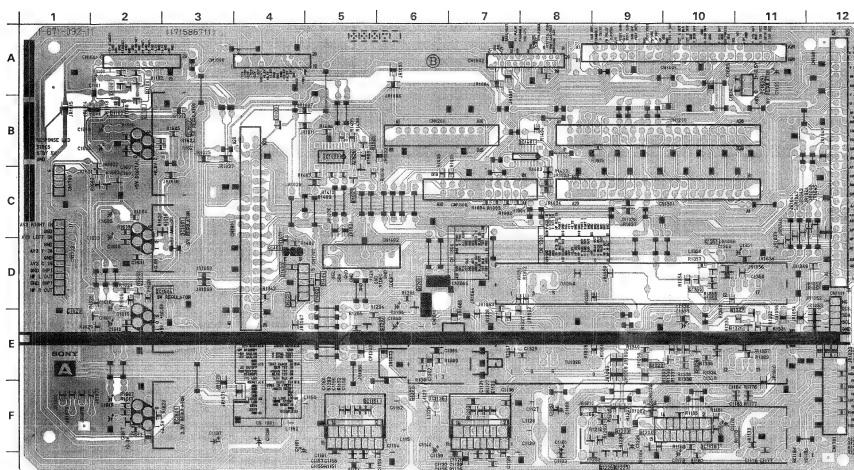


**A** [ SIGNAL AND AUDIO AMP ]

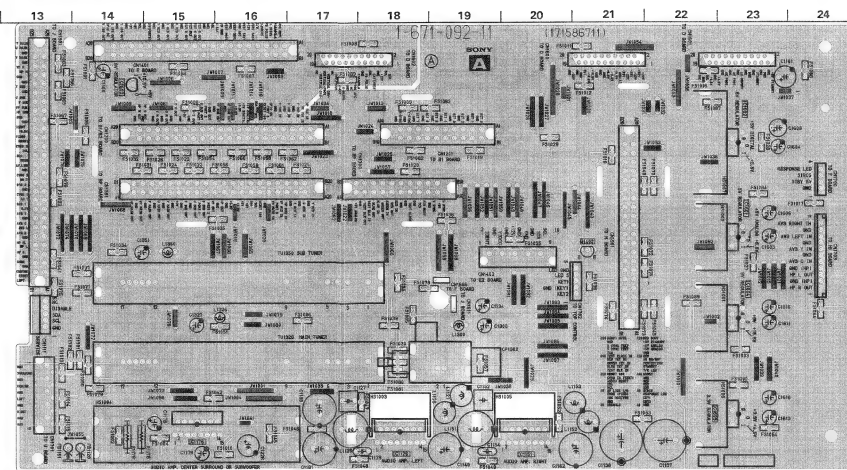
**A BOARD**

IC	DIODE
IC1126 F-6	D1100 A-2
IC1151 F-5	D1101 B-2
IC1176 G-15	D1102 B-2
IC1400 B-5	D1103 B-4
IC1601 C-3	D1401 E-4
IC1602 B-3	D1402 D-5
IC1603 A-11	D1403 D-4
IC1604 D-5	D1404 D-5
IC1605 F-3	D1626 B-6
<b>TRANSISTOR</b>	
Q1100 A-2	D1627 C-5
Q1201 D-6	D1628 E-1
Q1202 E-6	
Q1203 F-9	
Q1204 F-9	
Q1226 G-9	
Q1227 G-9	
Q1320 E-11	
Q1327 E-11	
Q1328 E-10	
Q1329 E-10	
Q1400 D-4	
Q1626 B-5	

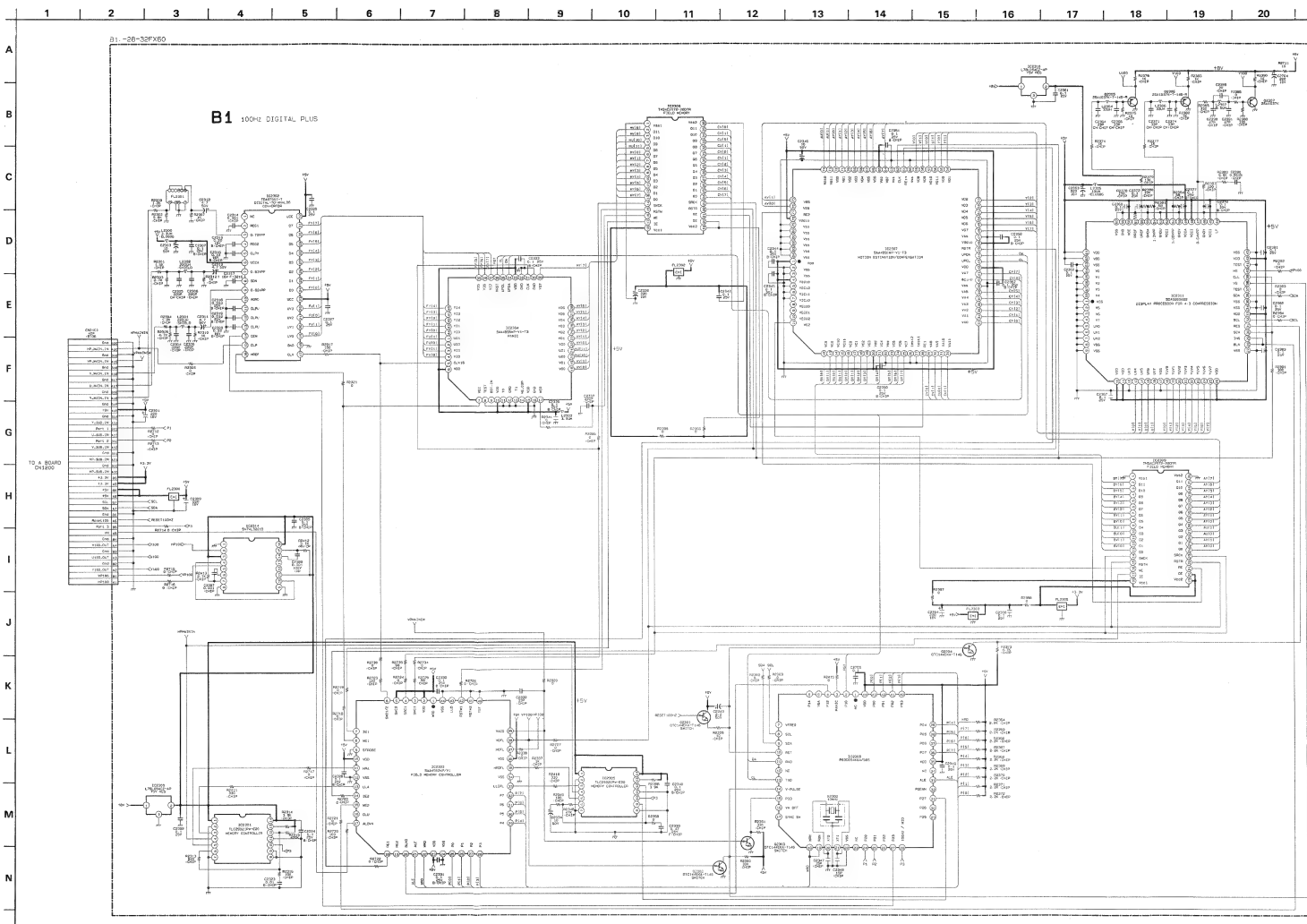
**A Board <Conductor Side>**



**A Board <Component Side>**





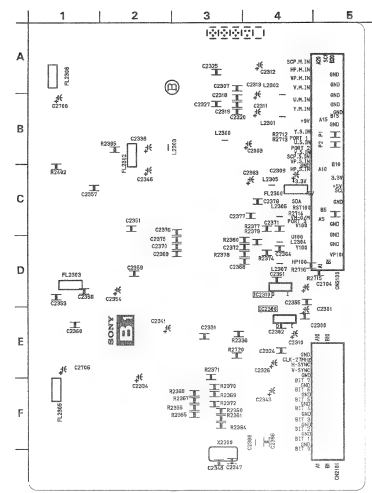


**B1** [ 100Hz DIGITAL PLUS ]

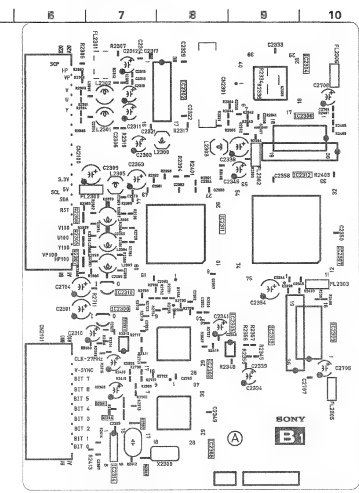
**B1 BOARD**

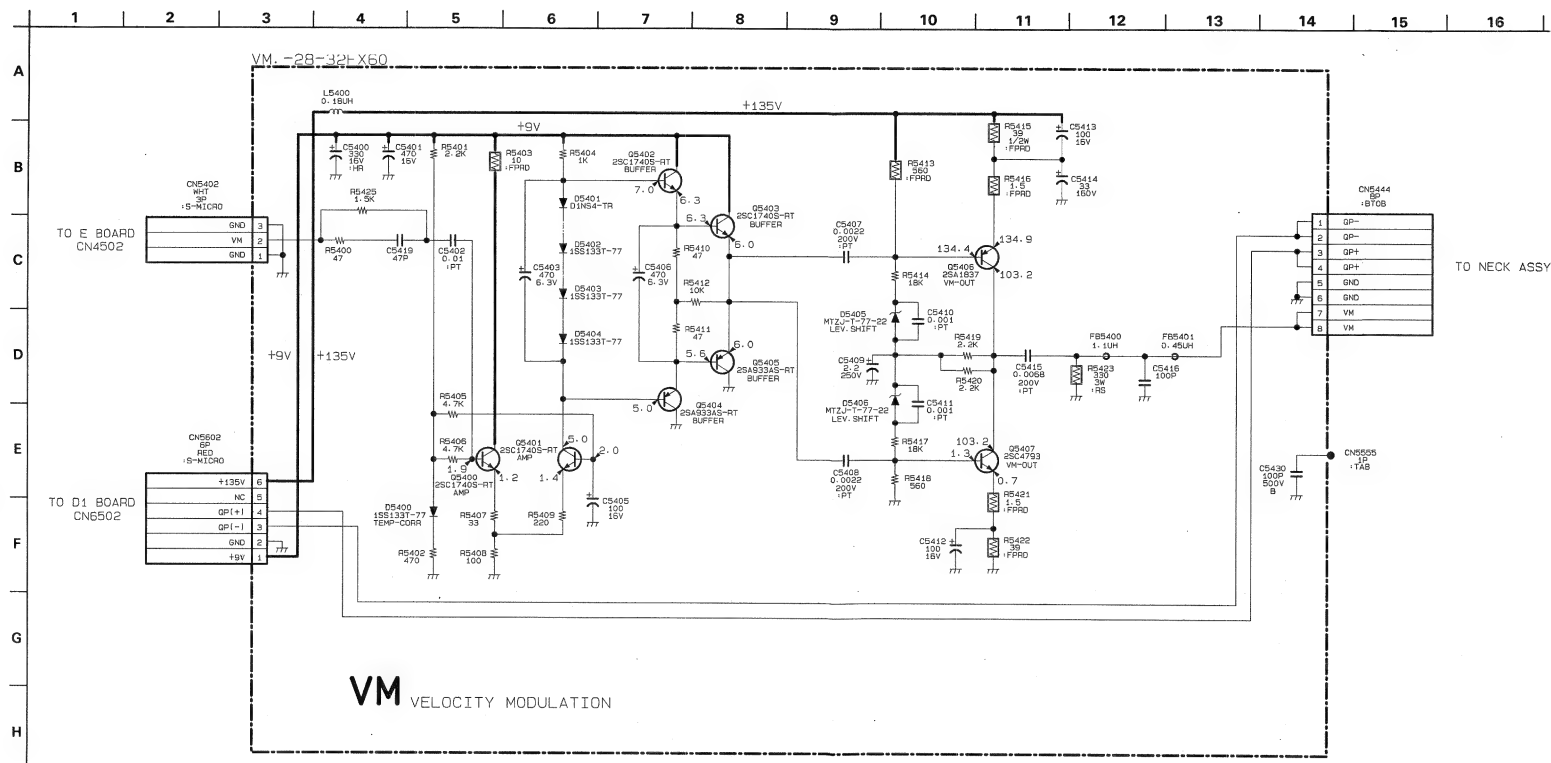
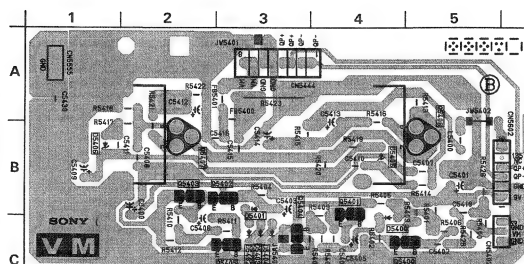
IC	TRANSISTOR
IC2300	E-4
IC2301	E-7
IC2302	A-5
IC2304	A-10
IC2305	D-9
IC2306	B-10
IC2307	D-10
IC2310	E-10
IC2311	D-7
IC2314	F-7
Q2301	F-7
Q2302	F-7
Q2303	F-7
Q2304	F-7
Q2305	C-6
Q2306	C-6
Q2307	C-6

**B1 Board <Conductor Side>**



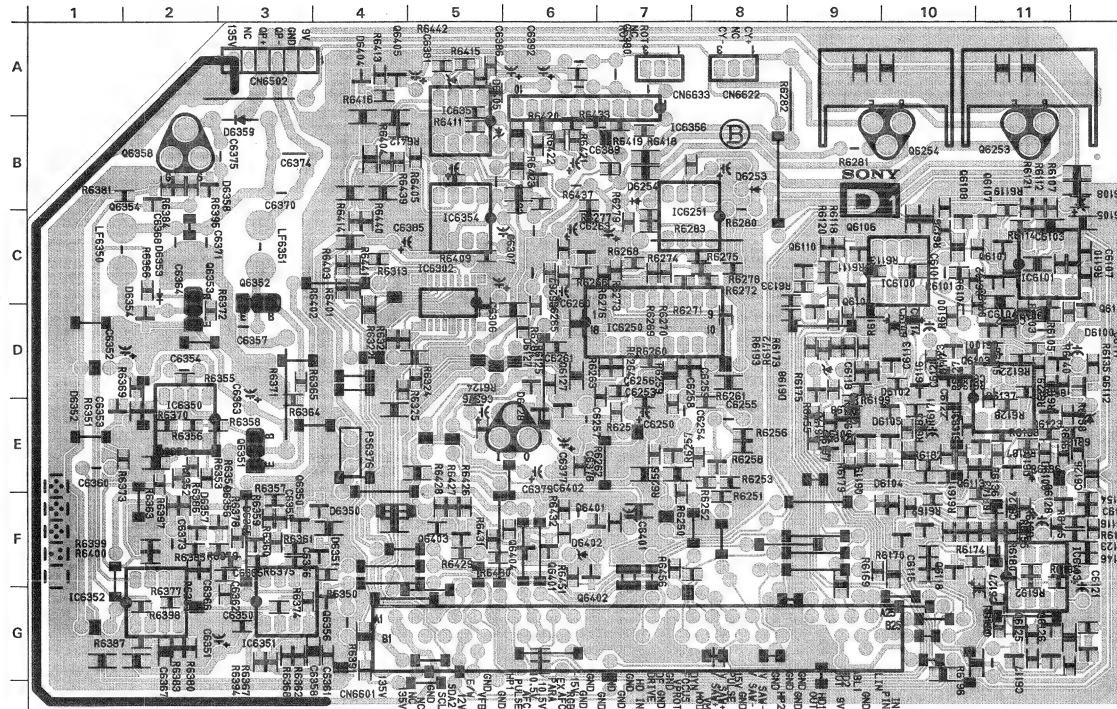
**B1 Board <Component Side>**





# D1 [ DEFLECTION ]

D1 Board

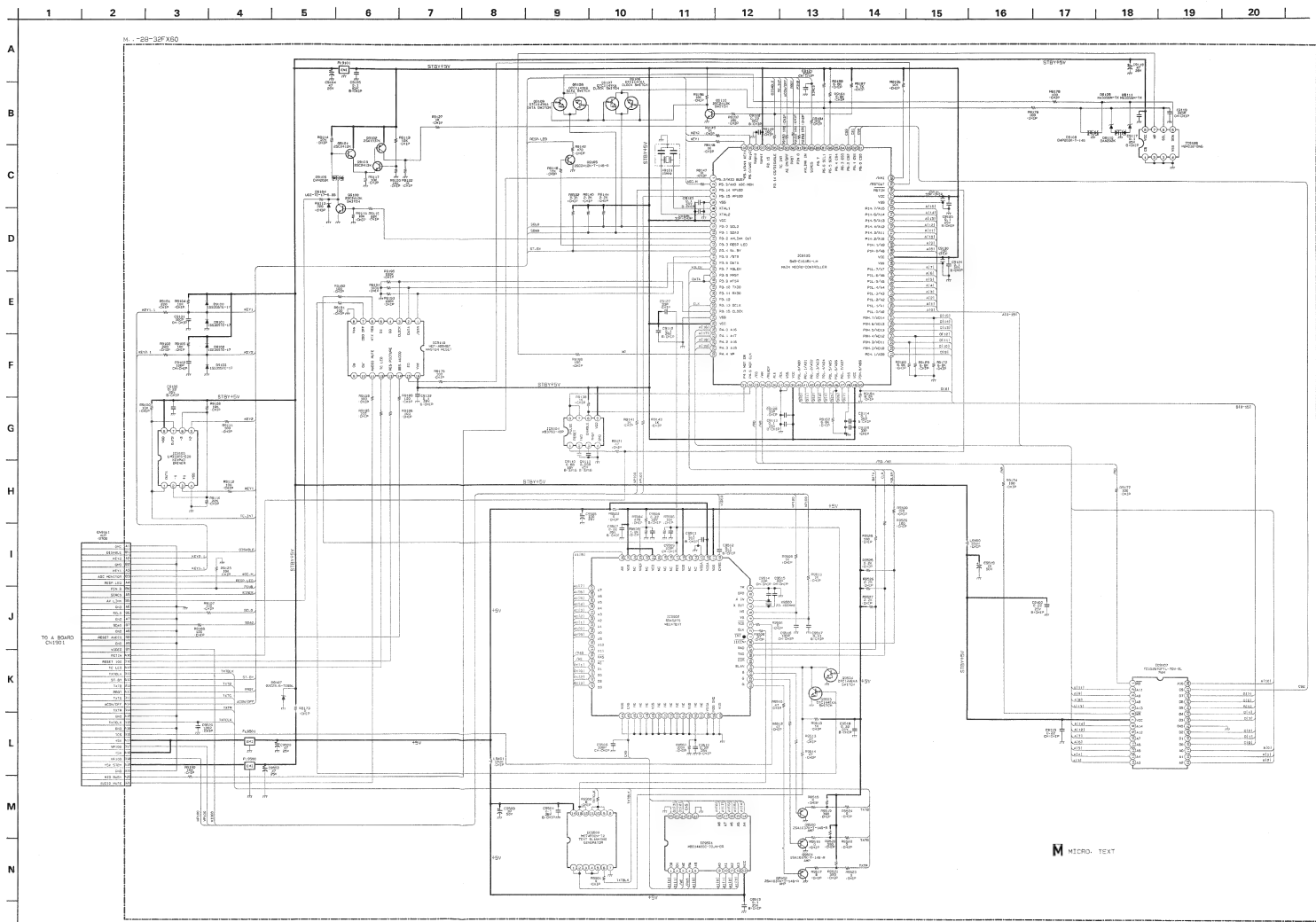


D1 BOARD

IC		
IC6100	C-9	Q6350 E-8
IC6101	C-12	Q6351 E-3
IC6102	D-11	Q6352 D-3
IC6103	G-12	Q6353 C-2
IC6250	D-8	Q6354 C-2
IC6251	C-8	Q6356 G-4
IC6302	D-5	Q6358 B-2
IC6350	D-3	Q6401 F-7
IC6351	G-3	Q6402 G-6
IC6352	G-1	Q6403 F-5
IC6353	E-5	Q6404 G-6
IC6354	C-5	Q6455 C-8
IC6355	A-5	Q6465 B-5
IC6356	A-6	
DIODE		
D6100	D-12	
D6101	E-12	
TRANSISTOR		
Q6100	D-11	D6102 D-10
Q6101	C-11	D6104 E-9
Q6102	C-12	D6105 E-9
Q6104	C-9	D6106 E-8
Q6105	B-11	D6108 F-11
Q6106	C-9	D6127 D-6
Q6107	E-11	D6128 E-6
Q6108	B-10	D6129 D-8
Q6110	C-8	D6198 D-8
Q6118	G-10	D6253 B-8
Q6119	E-8	D6254 B-7
Q6120	E-9	D6350 F-4
Q6122	E-9	D6351 F-4
Q6123	E-12	D6352 E-1
Q6125	H-11	D6353 C-2
Q6126	H-11	D6354 D-2
Q6127	E-6	D6355 E-3
Q6128	F-12	D6358 B-2
Q6130	H-11	D6359 B-3
Q6131	G-12	D6401 F-7
Q6201	F-10	D6402 F-6
Q6202	F-10	D6403 A-5
Q6250	E-8	D6404 A-4
Q6251	E-8	D6405 A-5
Q6252	B-10	
Q6253	B-11	
Q6254	C-2	

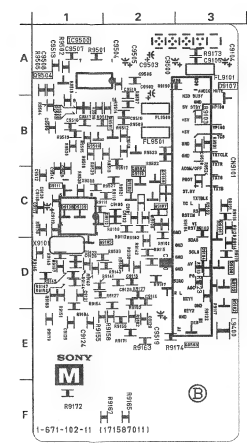




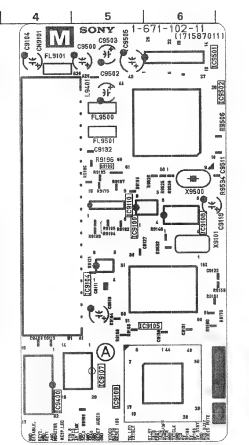


**M** [ MICRO, TEXT ]

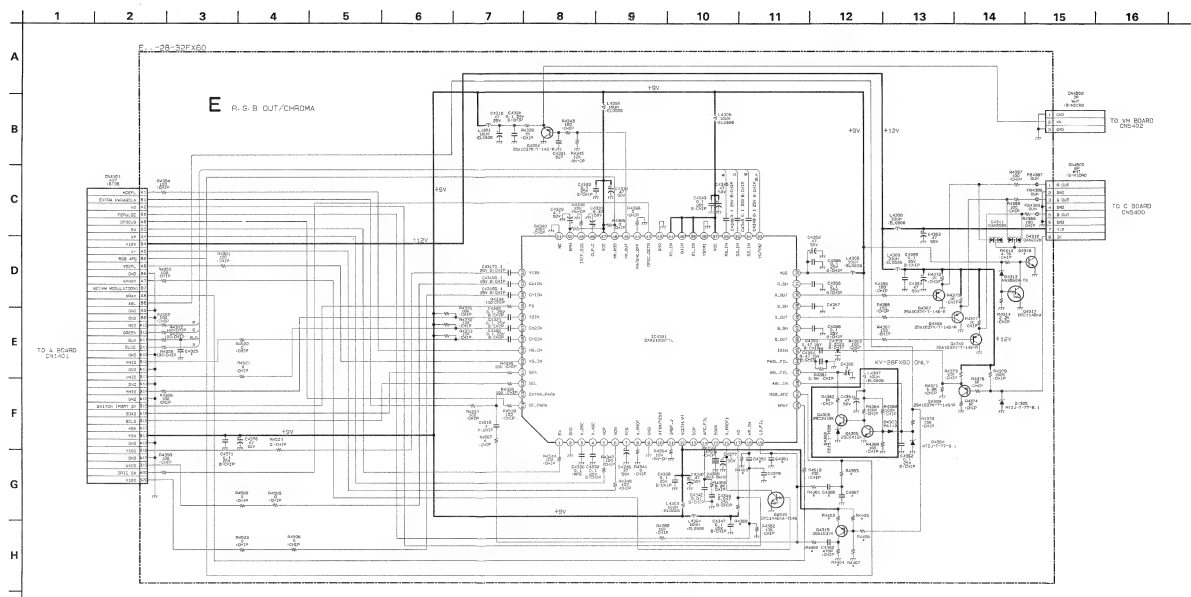
M Board <Conductor Side>



M Board <Component Side>



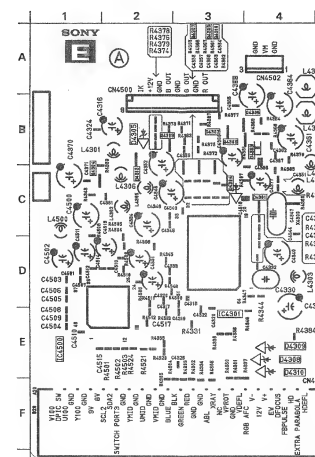
M BOARD	
IC	
IC8100	C-5
IC8104	D-5
IC8105	E-6
IC8107	E-5
IC8108	C-6
IC8109	F-5
IC8110	C-5
IC8500	A-1
IC8502	B-6
TRANSISTOR	
Q8100	D-3
Q8101	C-3
Q8102	D-3
Q8103	D-3
Q8105	D-1
Q8106	C-2
Q8107	C-2
Q8108	C-2
Q8109	B-5
Q8110	C-2
Q8500	B-1
Q8501	B-2
Q8502	C-2
Q8503	E-3
Q8504	A-1
DIODE	
D8104	D-3
D8107	A-3
D8108	C-1
D8109	C-1
D8110	C-2
D8111	C-1



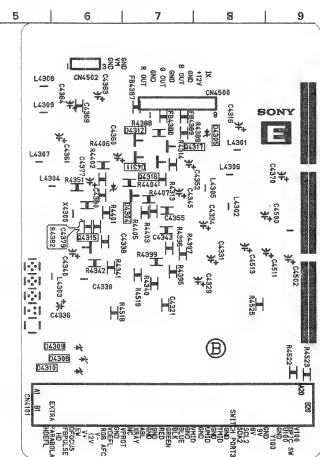
E BOARD \* MARK

[illegible]

**E Board <Component Side>**



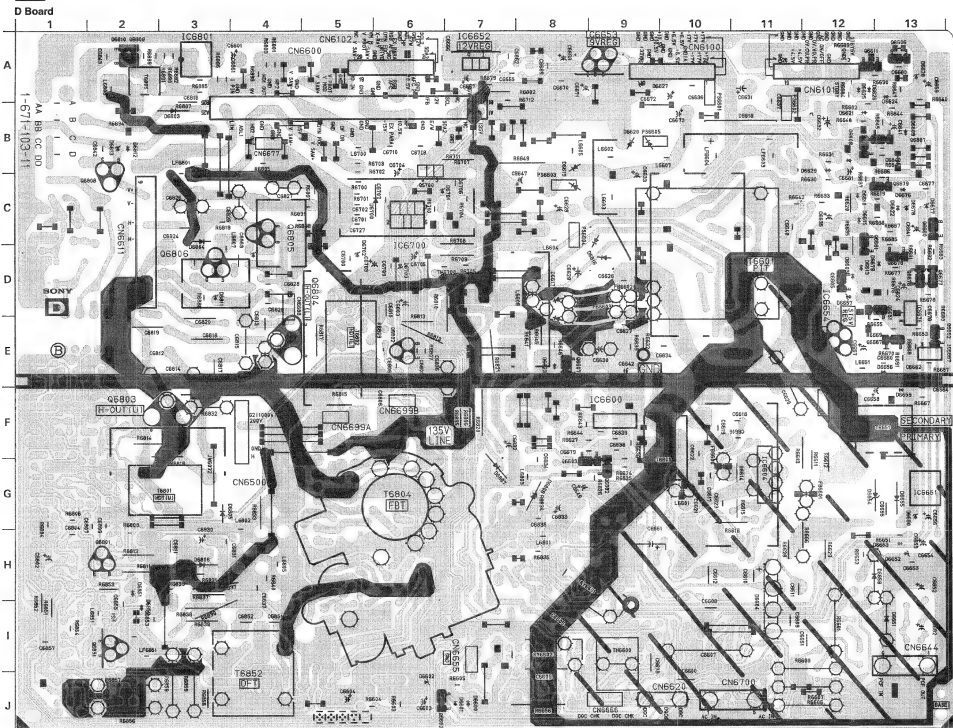
**E Board <Conductor Side>**

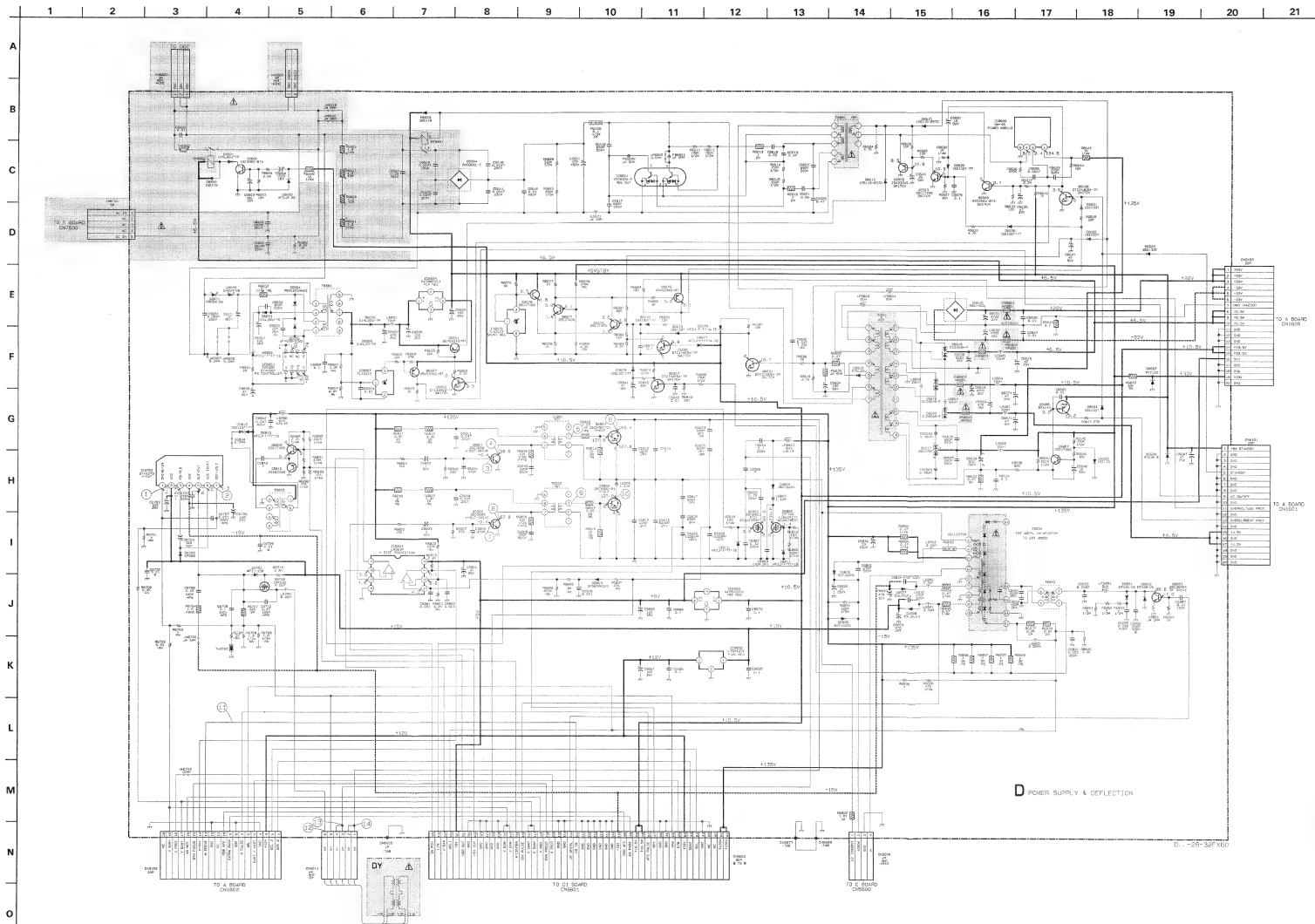


# D BOARD

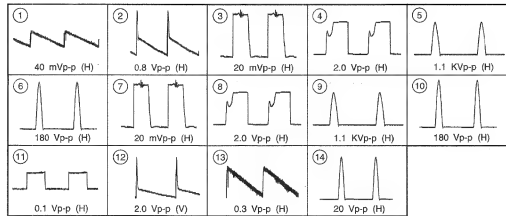
IC		
IC6600	F-9	D6613 D-12
IC6604	H-11	D6615 C-12
IC6651	G-13	D6616 D-9
IC6652	A-7	D6617 D-8
IC6653	A-9	D6618 B-11
IC6654	D-12	D6619 B-8
IC6655	E-14	D6620 B-9
IC6676	D-13	D6621 B-12
IC6700	D-6	D6622 C-13
IC6801	A-3	D6623 E-8
		D6624 B-13
TRANSISTOR		
Q6600	J-6	D6625 A-12
Q6602	G-9	D6627 A-10
Q6603	G-8	D6629 A-13
Q6605	D-12	D6629 B-12
Q6606	A-13	D6651 I-13
Q6607	E-8	D6652 H-13
Q6651	E-13	D6653 H-13
Q6652	E-14	D6654 G-12
Q6657	E-13	D6655 G-13
Q6676	D-13	D6655 E-13
Q6677	D-14	D6656 H-13
Q6678	D-13	D6659 F-13
Q6679	C-13	D6676 C-13
Q6680	C-13	D6677 C-13
Q6681	D-13	D6678 C-13
Q6700	C-6	D6679 D-13
Q6801	H-2	D6681 E-13
Q6802	E-6	D6700 C-5
Q6803	F-2	D6701 H-2
Q6804	D-5	D6803 B-3
Q6805	E-13	D6804 C-3
Q6806	D-3	D6805 G-3
Q6807	B-13	D6806 H-3
Q6809	A-2	D6807 G-7
Q6810	A-2	D6808 G-8
Q6851	I-2	D6809 B-13
		D6811 D-3
DIODE		
D6600	J-7	D6812 B-2
D6601	J-7	D6813 B-2
D6602	J-6	D6851 H-2
D6603	D-12	D6852 1-2
D6604	I-11	
D6810	C-12	

## D [POWER SUPPLY AND DEFLECTION]



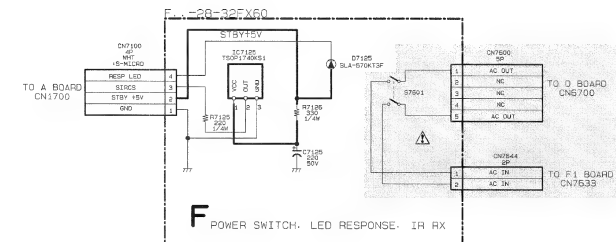
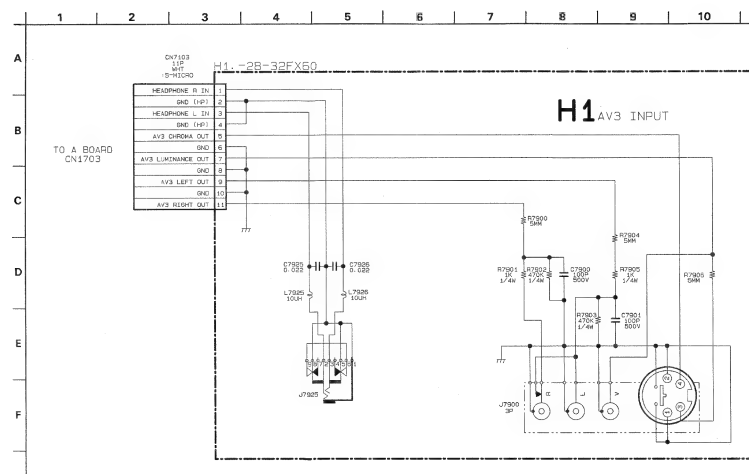


Waveforms D Board

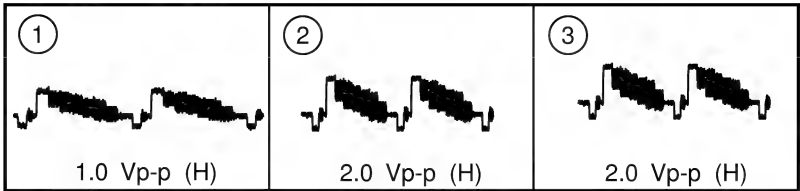


D BOARD MARK

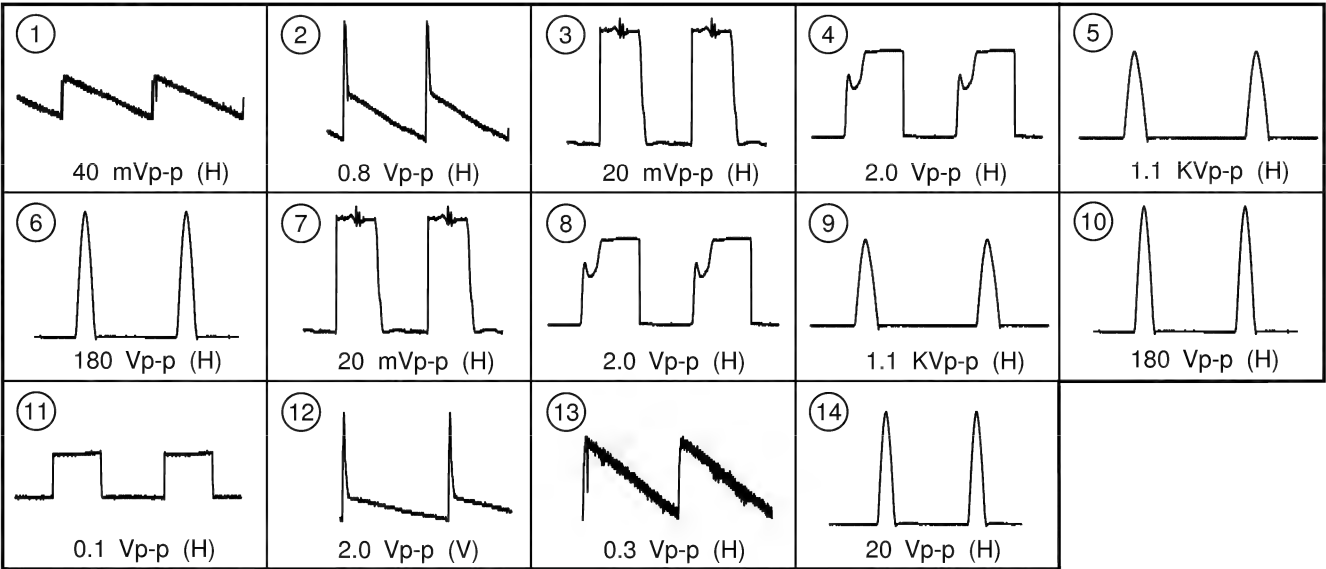
Ref	28PXA5A	28PXA5B	28PXA5C	28PXA5D	28PXA5E	28PXA5F	28PXA5G	28PXA5H	28PXA5I	28PXA5J	28PXA5K	28PXA5L	28PXA5M	28PXA5N	28PXA5O	28PXA5P	28PXA5Q	28PXA5R	28PXA5S	28PXA5T	28PXA5U	28PXA5V	28PXA5W	28PXA5X	28PXA5Y	28PXA5Z
CB814	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF	7500PF
CB815	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF	6800PF
CB816	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ	0.25MΩ
CB817	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550	1.801-550
CB818	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
CB819	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K	5.8K
CB820	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K	3.3K
CB821	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K	15K
CB822	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K
CB823	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K
CB824	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K
CB825	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K	8.2K



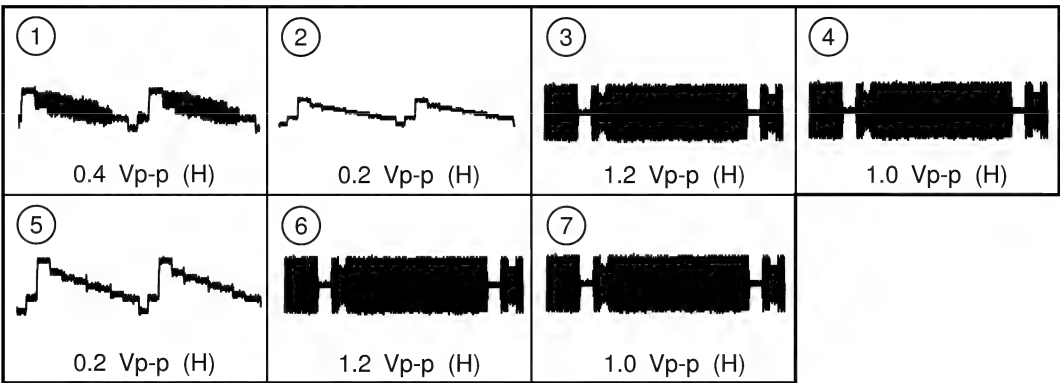
**Waveforms A Board**



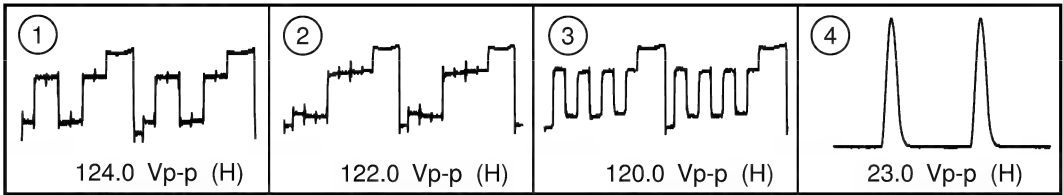
**Waveforms D Board**



**Waveforms J1(1/2) Board**

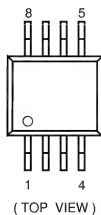


**Waveforms C Board**

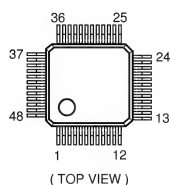


## 5-4 SEMICONDUCTORS

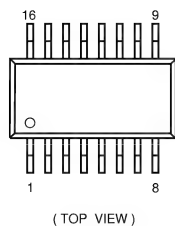
BA7046F  
BA7046F-T1  
LM393PS-E20  
MB3793-42NF  
MB3793-42NF-ER  
NJM2240M  
NJM2240M(TE2)  
NJM3404AD



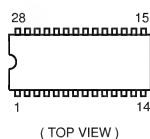
CXA1855Q-T6



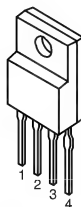
CXA1875AM-T4  
HE4094BT  
MC14052BDR2  
MC74F157ADR2  
SN74LS221D  
74HCT4046AD/S470



CXD2053S  
TDA4780/V3

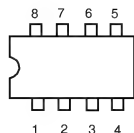


KA78R05TU  
KA78R09TU  
KA78R33TU

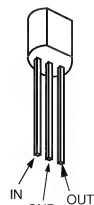


1 : V IN  
2 : V OUT  
3 : GND  
4 : ON/OFF CONTROL

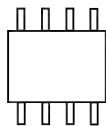
LM393D  
M5216P  
M24C32-BN6  
ST24C16FB6  
TDA2822M  
UPC393C



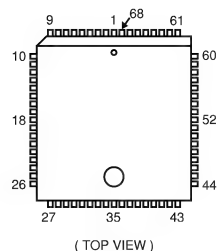
LM78L05ACZ  
LM78L12ACZ  
L78L05ACZ-AP  
L78L12ACZ-AP



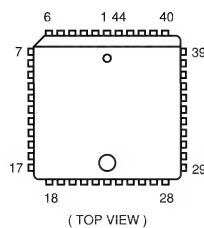
MB3793-42PNF-ER



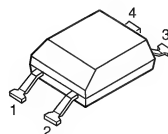
MSP3410D-QA-B4  
SAA7185WP  
SDA5273P-C134-GEG  
SDA5275



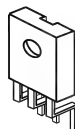
M27C800-100K1



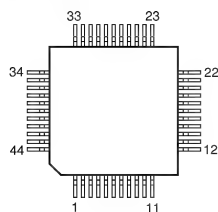
PC123F2  
PC123FY2



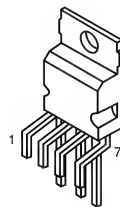
SBX1981-51



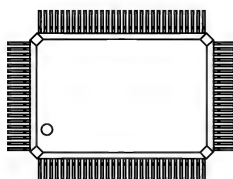
SDA9361



STV9379



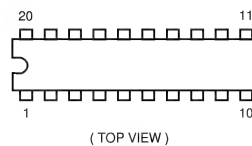
SAB-C161R1-LM



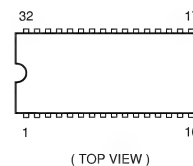
TC55257DFTL-70V-EL



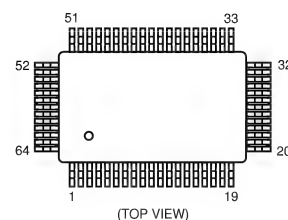
TDA7309D013TR



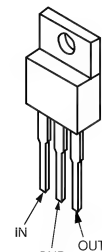
SDA9288X-B121  
TDA9143/N2  
TDA9144/N2  
TDA9170T



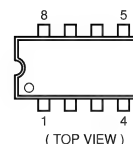
TDA9320H-N1-518



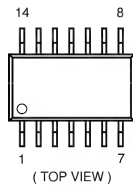
TEA6422DT  
LM393N



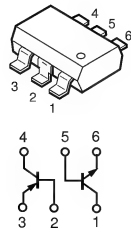
TOP209P



U2860B-BFPG3  
74LVC08D



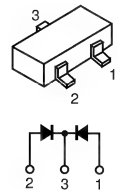
IMZ1A-T109



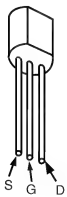
2SC2500-B  
2SC2551-O  
2SC2551O-TPE2



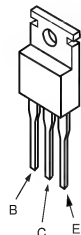
DAN202K  
DAN202K-T-146



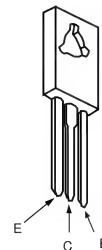
BC546B  
BC556B



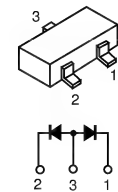
IRF614  
IRF620



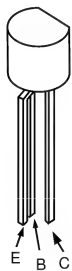
2SC2688-LK  
2SC3840K



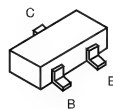
DAP202K  
DAP202K-T-146



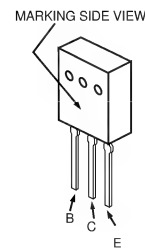
BF199  
BF199-AMMO



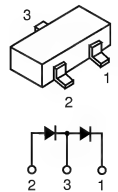
DTA144EK  
DTA144EK-T146  
DTC114EK  
DTC114YKA-T146  
DTC123EK  
DTC123EK-T146  
DTC124EKA-T146  
DTC144EK  
DTC144EK-T146  
2SA1037K-T-146-R  
2SA1162-G  
2SC2412K-QR  
2SC2412K-T-146-R



2SC3997CA



DA204K  
DA204K-T-146



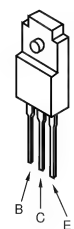
BF421-AMMO



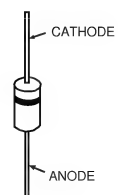
DTA144ESA  
DTA144ESA-TP  
DTC114ESA-TP  
DTC144ESA-TP  
2SA1175-HFE  
2SA733-K  
2SA933AS-RT  
2SA933AS-QRT  
2SA933S-RT  
2SC1740S-RT  
2SC2785-HFE



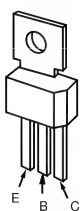
2SC4793



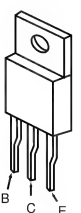
D1NL20-TA  
D1NL20U-TR  
D1N54-TR  
EGP20G  
EL1Z  
GP08D  
GP08DPKG23  
R2K-V1  
RGP02-20EG23  
RGP10GPKG23  
RGP15GPKG23  
S2LA20F  
1SS133T-77  
1SS83  
1SS83TD



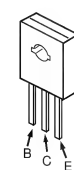
BF87-127



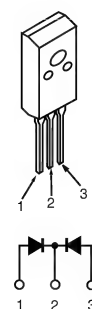
2SA1837



2SD2396H

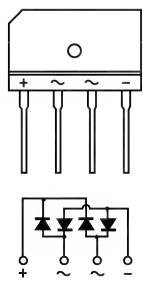


D10SC4M  
D10SC6M

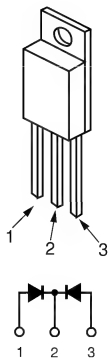




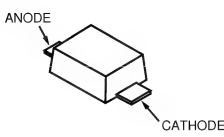
D4SB60L  
D4SB60L-F  
RBA-402L



ESAC39M-06C  
ESAC39M-06CF38

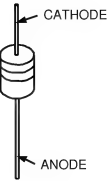
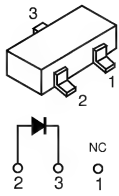


UF4005PKG23

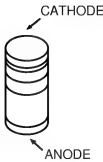


ERA38-06TP1	MTZJ-T-77-5.6B
ERA82-004TP1	MTZJ-T-77-6.8
GP08DPKG23	MTZJ-T-77-7.5B
MTZJ-T-77-12	MTZJ-T-77-9.1
MTZJ-T-77-15	MTZJ-33C
MTZJ-T-77-2.2B	RD5.6ESB2
MTZJ-T-77-22	RD9.1ESB2
MTZJ-T-77-33C	PGKE200AG23
MTZJ-T-77-3.6B	1SS119-25
MTZJ-T-77-4.7B	1SS119-25TD

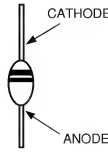
MA3033-L  
MA3033L-TX  
MA3056M-TX  
MA3062M-TX  
MA3030-H-(TX)



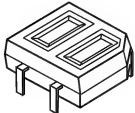
MA3051L-TX



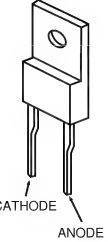
ERC04-06SE



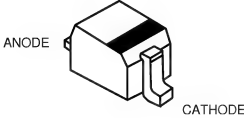
MA73-TX



ERD08M-15

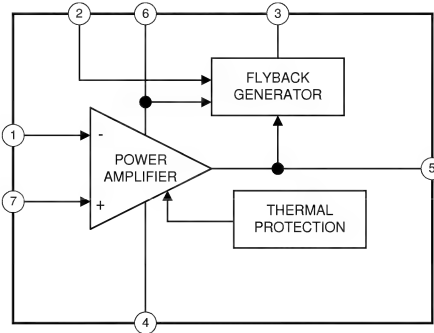


RD12SB2  
UDZ-TE-17-6.2B  
UDZ-TE-17-6.8B  
UDZ-TE-12B

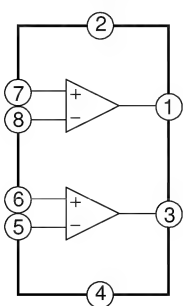


# 5-5. IC BLOCK DIAGRAMS

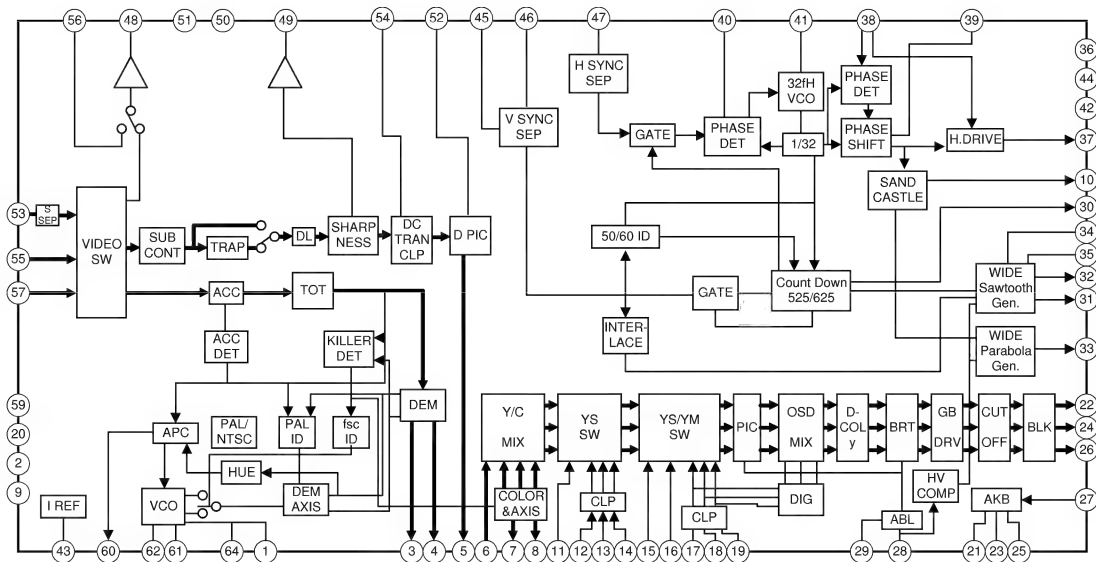
D BOARD IC6700 STV 9379



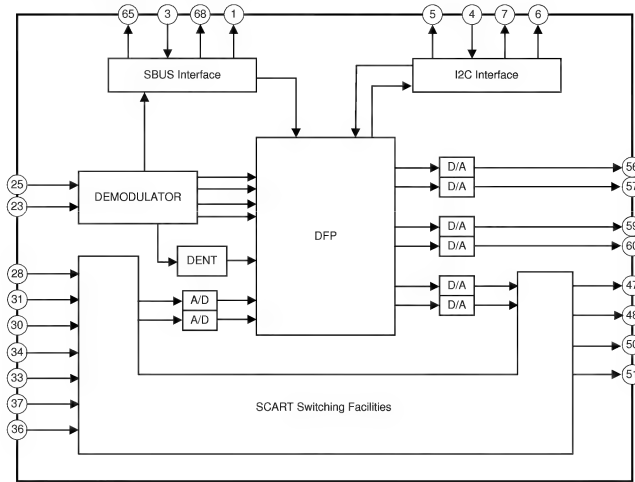
J BOARD IC8101 TDA2822M



E BOARD IC4301 CXA2100Q-TL



J BOARD IC8200 MSP3410D-QA-B4



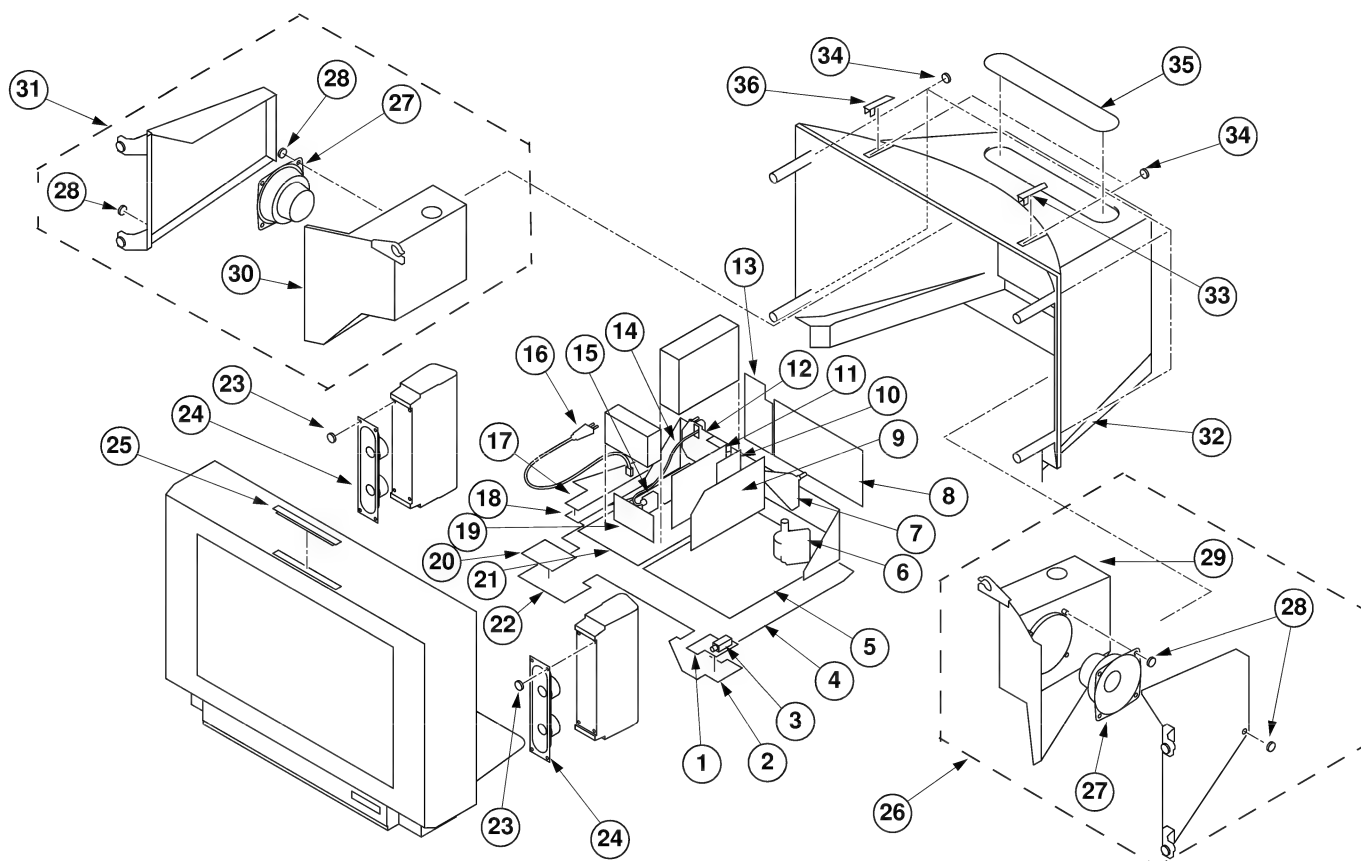
## SECTION 6 EXPLODED VIEWS

### NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked “ \* “ are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked **Δ** are critical for safety. Replace only with the part number specified.

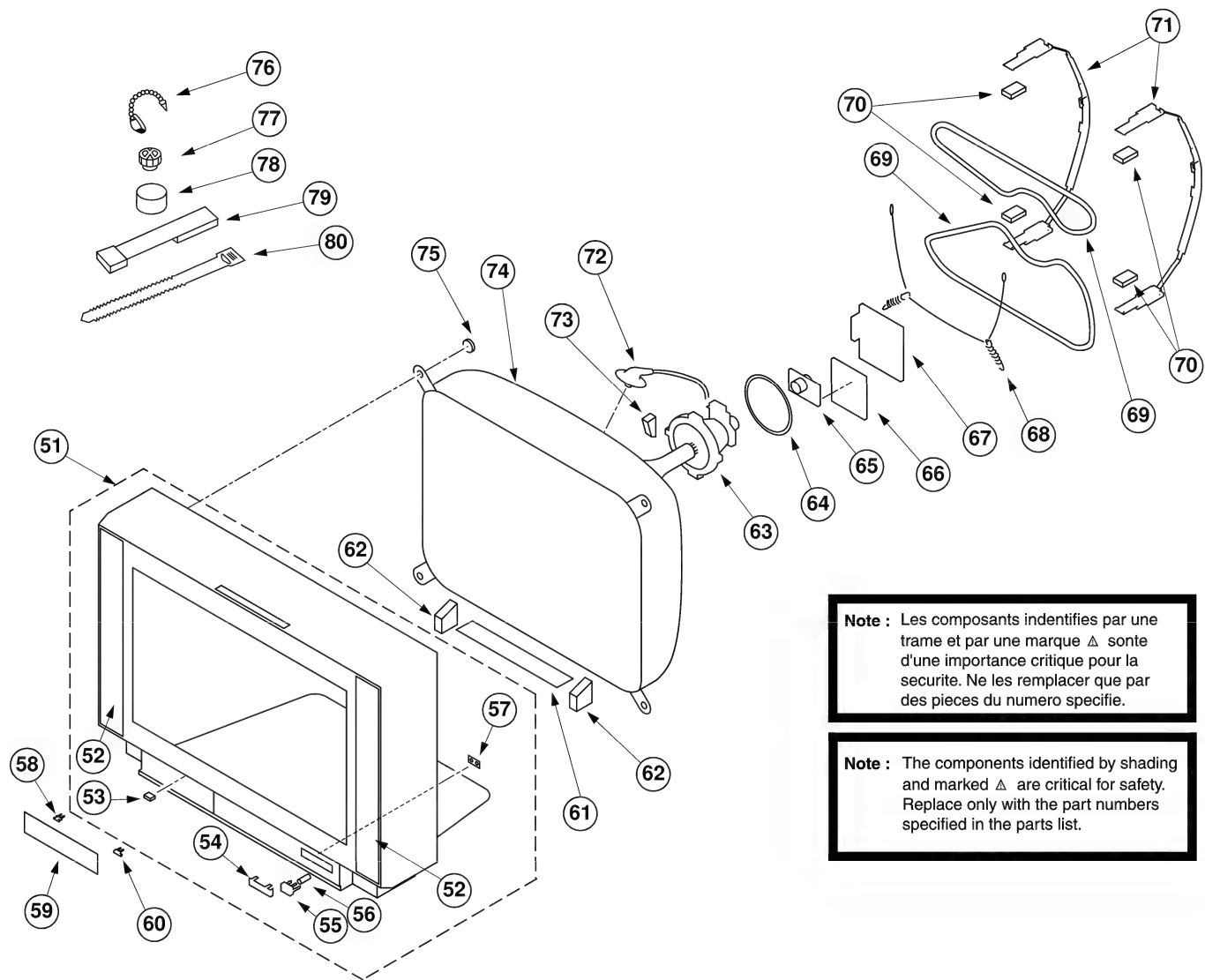
### 6-1. CHASSIS



REF. NO.	PART. NO	DESCRIPTION	REMARK	REF. NO.	PART. NO	DESCRIPTION	REMARK
1	*A-1624-073-A	F BOARD, COMPLETE		8	*A-1651-100-A	J BOARD, COMPLETE	
2	*4-204-551-01	BRACKET, F	(KV-28FX60A/28FX60D/28FX60E/28FX60K/28FX60R/32FX60A/32FX60B/32FX60D/32FX60E/32FX60K/32FX60R/32FX60U)				
	*4-204-551-21	BRACKET, F (KV-28FX60B/28FX60U)					
3	Δ 1-571-433-21	SWITCH, PUSH (AC POWER)					
4	*4-204-549-01	BRACKET, MAIN		9	*A-1640-329-A	D1 BOARD, COMPLETE (KV-28FX60)	
5	*A-1640-328-A	D BOARD, COMPLETE (KV-28FX60)			*A-1640-322-A	D1 BOARD, COMPLETE (KV-32FX60)	
	*A-1640-323-A	D BOARD, COMPLETE (KV-32FX60)		10	*A-1640-341-A	E BOARD, COMPLETE (KV-28FX60)	
					*A-1640-337-A	E BOARD, COMPLETE (KV-32FX60)	
6	Δ 1-453-272-11	TRANSFORMER ASSY, FLYBACK	(NX-4512/U2B4)	11	*A-1620-112-A	B1 BOARD, COMPLETE	
				12	*4-204-477-01	BRACKET, J2	
7	*4-204-476-01	BRACKET, J1		13	*A-1648-016-A	U BOARD, COMPLETE	
				14	1-790-082-11	CABLE, RF	

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
15	1-693-338-11	TUNER/VIF (AEP) (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/32FX60A/32FX60D/ 32FX60E/32FX60K/32FX60R)		22	*4-204-550-01	BRACKET, H (KV-28FX60A/28FX60D/28FX60E/28FX60K/ 28FX60R/32FX60A/32FX60B/32FX60D/ 32FX60E/32FX60R/32FX60U)	
	1-693-340-11	TUNER/VIF (FR) (KV-32FX60B)			*4-204-550-21	BRACKET, H (KV-28FX60B/28FX60U)	
	1-693-339-11	TUNER/VIF (UK) (KV-28FX60U/32FX60U)		23	4-039-358-01	SCREW (4X16), (+) BV TAPPING	
16	△ 1-574-062-61	CORD, POWER (WITH CONNECTOR) (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/32FX60A/32FX60B/ 32FX60D/32FX60E/32FX60K/32FX60R)		24	1-529-153-11	SPEAKER (4.8X20CM)	
	△ 1-590-762-21	CORD, POWER (WITH UK PLUG) (KV-28FX60U/32FX60U)		25	0-553-509-00	SWITCH, ARRAY	
17	*A-1624-074-A	F1 BOARD, COMPLETE		26	A-1678-188-A	WOOFER (R) ASSY	27-29
18	*4-204-552-01	BRACKET, F1		27	1-529-144-11	SPEAKER (13CM)	
19	*A-1634-047-A	M BOARD, COMPLETE		28	4-039-355-11	SCREW (4X12), (+) BV TAPPING	
20	*A-1646-170-A	H1 BOARD, COMPLETE		29	*A-1678-158-A	WOOFER (R) ASSY, SP FX	
21	*A-1630-978-A	A BOARD, COMPLETE (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/32FX60A/32FX60D/ 32FX60E/32FX60K/32FX60R)		30	*A-1678-157-A	WOOFER (L) ASSY, SP FX	
	*A-1630-989-A	A BOARD, COMPLETE (KV-28FX60U/32FX60U)		31	A-1678-150-A	WOOFER (L) ASSY	27,28,30
	*A-1630-988-A	A BOARD, COMPLETE (KV-32FX60B)		32	4-204-459-01	COVER, REAR (KV-28FX60)	
					4-204-367-21	COVER, REAR (KV-32FX60)	
				33	4-204-427-01	COVER, SCREW (L) (KV-28FX60)	
					4-204-369-01	COVER, SCREW (L) (KV-32FX60)	
				34	4-302-404-03	SCREW (WASHER HEAD) (+P 4X16)	
				35	*4-204-458-01	COVER, PORT	
				36	4-204-428-01	COVER, SCREW (R) (KV-28FX60)	
					4-204-370-01	COVER, SCREW (R) (KV-32FX60)	

6-2. PICTURE TUBE



**Note :** Les composants identifiés par une trame et par une marque Δ sont d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

**Note :** The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
51	X-4200-417-2	BEZNET ASSY (KV-28FX60)	52-57	60	4-045-250-01	DAMPER	
	X-4200-412-3	BEZNET ASSY (KV-32FX60)		61	4-203-128-31	SHEET, BLOTING (KV-28FX60)	
52	4-204-368-01	GRILLE, SPEAKER (KV-32FX60)		62	*4-203-098-01	SUPPORTER, CRT (KV-32FX60)	
53	4-042-192-01	CATCHER, PUSH		63	△ 1-451-481-11	DEFLECTION YOKE (Y28RCV2) (KV-28FX60)	
54	4-204-492-01	WINDOW, ORNAMENTAL			△ 1-451-480-11	DEFLECTION YOKE (Y32RCV2) (KV-32FX60)	
55	4-204-438-01	BUTTON, POWER		64	1-452-896-11	COIL, NA ROTATION (RT200)	
56	4-202-964-11	SPRING		65	△ 8-453-011-11	NECK ASSY, NA299-M	
57	4-204-439-01	GUIDE, LIGHT		66	*A-1644-094-A	VM BOARD, COMPLETE	
58	4-202-555-01	SHAFT, DOOR		67	*A-1638-123-A	C BOARD, COMPLETE	
59	4-204-435-31	DOOR (KV-28FX60A/28FX60B/28FX60D/28FX60K/28FX60R/28FX60U/32FX60A/32FX60D/32FX60K/32FX60R)		68	4-369-318-51	SPRING, TENSION	
	4-204-435-41	DOOR (KV-28FX60E/28FX60U/32FX60B/32FX60E/32FX60U)		69	△ 1-416-466-11	COIL, DEMAGNETIC (KV-28FX60)	
					△ 1-416-769-11	COIL, DEMAGNETIC (KV-32FX60)	
				70	*4-202-988-01	CUSHION, BOX	

REF. NO.	PART.NO	DESCRIPTION	REMARK
71	*4-057-303-01	HOLDER, DGC (KV-28FX60)	
	*4-059-569-01	HOLDER, DGC (KV-32FX60)	
72	△ 1-251-317-31	CAP ASSY, HIGH-VOLTAGE	
73	3-704-495-01	SPACER, DY	
74	△ 8-737-785-05	PICTURE TUBE (W66LX010X) (KV-28FX60)	
	△ 8-735-054-05	PICTURE TUBE (W76LLZ060X) (SD-302)	(KV-32FX60)

REF. NO.	PART.NO	DESCRIPTION	REMARK
75	4-036-188-01	SCREW, SELF TAPPING	
76	4-308-870-00	CLIP, LEAD WIRE	
77	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
78	1-425-032-00	MAGNET, DISK; 10MM	
79	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
80	3-701-007-00	BAND, BINDING	

## SECTION 7 ELECTRICAL PARTS LIST

**Note :** Les composants indentifiés par une trame et par une marque  $\Delta$  sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

**Note :** The components identified by shading and marked  $\Delta$  are critical for safety. Replace only with the part numbers specified in the parts list.

- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- RESISTORS
- All resistors are in ohms.
- F : nonflammable.

When indicating parts by reference number, please include the board name.

CAPACITORS  
MF : mF, PF : mmF

COILS  
MMH : mH,  $\mu$ H

**B1**

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
*A-1620-112-A B1 BOARD, COMPLETE *****							
< CAPACITOR >							
C2301	1-126-934-11	ELECT 220MF	20% 16V	C2340	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2302	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2342	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2303	1-126-964-11	ELECT 10MF	20% 50V	C2343	1-126-961-11	ELECT 2.2MF	20% 50V
C2304	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C2344	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2305	1-163-259-91	CERAMIC CHIP 220PF	5% 50V	C2345	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2306	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C2346	1-126-964-11	ELECT 10MF	20% 50V
C2307	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2347	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C2308	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C2348	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C2309	1-126-934-11	ELECT 220MF	20% 16V	C2349	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2311	1-126-963-11	ELECT 4.7MF	20% 50V	C2350	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2312	1-126-963-11	ELECT 4.7MF	20% 50V	C2351	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2313	1-126-963-11	ELECT 4.7MF	20% 50V	C2354	1-126-934-11	ELECT 220MF	20% 16V
C2314	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C2356	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2315	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V	C2357	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2316	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V	C2358	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2317	1-162-638-11	CERAMIC CHIP 1MF	16V	C2361	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2318	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V	C2362	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2319	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V	C2363	1-126-934-11	ELECT 220MF	20% 16V
C2320	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V	C2364	1-102-518-11	CERAMIC CHIP 33PF	5% 50V
C2323	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C2366	1-102-518-11	CERAMIC CHIP 33PF	5% 50V
C2324	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2367	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2325	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2368	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2327	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2371	1-102-518-11	CERAMIC CHIP 33PF	5% 50V
C2328	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2372	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2329	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2374	1-102-518-11	CERAMIC CHIP 33PF	5% 50V
C2330	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2377	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2331	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2378	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2332	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C2380	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V
C2333	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2381	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2334	1-126-964-11	ELECT 10MF	20% 50V	C2382	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2335	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C2383	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2337	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C2385	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C2338	1-126-934-11	ELECT 220MF	20% 16V	C2387	1-163-275-11	CERAMIC CHIP 0.001MF	2% 100V
C2339	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C2388	1-136-479-11	FILM 0.001MF	1% 100V
				C2389	1-163-085-00	CERAMIC CHIP 2PF	0.25PF 50V
				C2390	1-102-852-91	CERAMIC 47PF	5% 50V
				C2391	1-102-852-91	CERAMIC 47PF	5% 50V
				C2704	1-126-934-11	ELECT 220MF	20% 16V

B1

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C2705	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R2304	1-216-051-00	RES,CHIP	1.2K 5% 1/10W
	< CONNECTOR >			R2305	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
CN2100	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P		R2306	1-216-295-91	SHORT	0
	< FILTER >			R2307	1-216-049-91	RES,CHIP	1K 5% 1/10W
FL2300	1-236-071-11	ENCAPSULATED COMPONENT		R2310	1-216-049-91	RES,CHIP	1K 5% 1/10W
FL2301	1-233-767-21	FILTER		R2312	1-216-049-91	RES,CHIP	1K 5% 1/10W
FL2302	1-236-071-11	ENCAPSULATED COMPONENT		R2313	1-216-047-91	RES,CHIP	820 5% 1/10W
FL2303	1-236-071-11	ENCAPSULATED COMPONENT		R2314	1-216-063-91	RES,CHIP	3.9K 5% 1/10W
FL2305	1-236-071-11	ENCAPSULATED COMPONENT		R2315	1-216-113-00	RES,CHIP	470K 5% 1/10W
	< IC >			R2316	1-216-073-00	RES,CHIP	10K 5% 1/10W
IC2300	8-759-991-41	IC LM78L05ACZ		R2317	1-216-025-91	RES,CHIP	100 5% 1/10W
IC2301	8-759-295-09	IC TLC2932IPW		R2320	1-216-295-91	SHORT	0
IC2302	8-759-257-59	IC TDA8755T-T		R2321	1-216-295-91	SHORT	0
IC2303	8-759-438-64	IC SAA4952WP/V1		R2337	1-216-049-91	RES,CHIP	1K 5% 1/10W
IC2304	8-759-546-02	IC SAA4995WP-V1-T3		R2338	1-216-295-91	SHORT	0
IC2305	8-759-295-09	IC TLC2932IPW		R2341	1-216-295-91	SHORT	0
IC2306	8-759-439-27	IC TMS4C2972-28DTR		R2345	1-216-025-91	RES,CHIP	100 5% 1/10W
IC2307	8-759-546-04	IC SAA4991WP-V1-T3		R2348	1-216-089-91	RES,CHIP	47K 5% 1/10W
IC2308	8-759-572-55	IC P83C654KBA/585		R2355	1-216-295-91	SHORT	0
IC2309	8-759-439-27	IC TMS4C2972-28DTR		R2356	1-216-063-91	RES,CHIP	3.9K 5% 1/10W
IC2310	8-759-991-41	IC LM78L05ACZ		R2358	1-216-295-91	SHORT	0
IC2311	8-759-467-19	IC SDA9280B22		R2359	1-216-001-00	RES,CHIP	10 5% 1/10W
IC2314	8-759-439-26	IC SN74LS221D		R2360	1-216-085-00	RES,CHIP	33K 5% 1/10W
	< COIL >			R2361	1-216-085-00	RES,CHIP	33K 5% 1/10W
L2300	1-408-597-31	INDUCTOR	3.3UH	R2362	1-216-295-91	SHORT	0
L2301	1-410-435-21	INDUCTOR	220UH	R2363	1-216-295-91	SHORT	0
L2302	1-410-435-21	INDUCTOR	220UH	R2364	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
L2303	1-408-597-31	INDUCTOR	3.3UH	R2365	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
L2304	1-414-186-31	INDUCTOR	33UH	R2366	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
L2305	1-408-603-31	INDUCTOR	10UH	R2367	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
L2306	1-414-186-31	INDUCTOR	33UH	R2368	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
L2307	1-414-384-11	INDUCTOR	5.6UH	R2369	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
	< TRANSISTOR >			R2370	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
Q2301	1-801-806-11	TRANSISTOR DTC144EKA-T146		R2371	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
Q2302	1-801-806-11	TRANSISTOR DTC144EKA-T146		R2372	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
Q2303	1-801-806-11	TRANSISTOR DTC144EKA-T146		R2373	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
Q2304	1-801-806-11	TRANSISTOR DTC144EKA-T146		R2374	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q2305	8-729-216-22	TRANSISTOR 2SA1162-G		R2375	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q2306	8-729-216-22	TRANSISTOR 2SA1162-G		R2376	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q2307	8-729-216-22	TRANSISTOR 2SA1162-G		R2377	1-216-049-91	RES,CHIP	1K 5% 1/10W
	< RESISTOR >			R2378	1-216-029-00	RES,CHIP	150 5% 1/10W
R2300	1-216-051-00	RES,CHIP	1.2K 5% 1/10W	R2379	1-216-076-00	RES,CHIP	13K 5% 1/10W
R2301	1-216-053-00	RES,CHIP	1.5K 5% 1/10W	R2380	1-216-073-00	RES,CHIP	10K 5% 1/10W
R2302	1-216-067-00	RES,CHIP	5.6K 5% 1/10W	R2381	1-216-021-00	RES,CHIP	68 5% 1/10W
R2303	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	R2382	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R2383	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R2384	1-216-021-00	RES,CHIP	68 5% 1/10W
				R2385	1-216-037-00	RES,CHIP	330 5% 1/10W
				R2386	1-216-295-91	SHORT	0
				R2387	1-216-027-00	RES,CHIP	120 5% 1/10W
				R2388	1-216-037-00	RES,CHIP	330 5% 1/10W



The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

**B1**

**F**

**F1**

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R2389	1-216-069-00	RES,CHIP	6.8K 5% 1/10W	< CONNECTOR >			
R2390	1-216-049-91	RES,CHIP	1K 5% 1/10W	CN7100	*1-568-879-11	PIN, CONNECTOR 4P	
R2391	1-216-025-91	RES,CHIP	100 5% 1/10W	CN7600	$\Delta$ *1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
R2392	1-216-295-91	SHORT	0	CN7644	$\Delta$ *1-580-844-11	PIN, CONNECTOR (POWER)	
R2393	1-216-295-91	SHORT	0	< DIODE >			
R2394	1-216-295-91	SHORT	0	D7125	8-719-030-11	DIODE SLA-570KT3F	
R2395	1-216-295-91	SHORT	0	< IC >			
R2396	1-216-295-91	SHORT	0	IC7125	8-749-014-59	IC TSOP1740KS1	
R2397	1-216-295-91	SHORT	0	< RESISTOR >			
R2398	1-216-295-91	SHORT	0	R7125	1-247-815-91	CARBON 220 5% 1/4W	
R2410	1-216-037-00	RES,CHIP	330 5% 1/10W	R7126	1-249-411-11	CARBON 330 5% 1/4W	
R2411	1-216-037-00	RES,CHIP	330 5% 1/10W	< SWITCH >			
R2412	1-216-668-11	METAL CHIP	5.1K 0.50% 1/10W	S7601	$\Delta$ 1-571-433-21	SWITCH, PUSH (AC POWER)	
R2413	1-216-059-11	RES,CHIP	2.7K 0.50% 1/10W	*****			
R2415	1-216-295-91	SHORT	0	*A-1624-074-A F1 BOARD, COMPLETE			
R2711	1-216-001-00	RES,CHIP	10 5% 1/10W	*****			
R2712	1-216-295-91	SHORT	0	< CAPACITOR >			
R2713	1-216-295-91	SHORT	0	C7626	$\Delta$ 1-136-519-12	FILM 0.47MF 20% 300V	
R2714	1-216-295-91	SHORT	0	< CONNECTOR >			
R2715	1-216-295-91	SHORT	0	CN7611	$\Delta$ *1-580-844-11	PIN, CONNECTOR (POWER)	
R2716	1-216-295-91	SHORT	0	CN7622	1-695-915-11	TAB (CONTACT)	
R2717	1-216-295-91	SHORT	0	CN7633	$\Delta$ *1-580-843-11	PIN, CONNECTOR (POWER)	
R2718	1-216-295-91	SHORT	0	< FUSE >			
R2719	1-216-295-91	SHORT	0	F7626	$\Delta$ 1-532-505-00	FUSE 5A/250V	
R2720	1-216-295-91	SHORT	0		$\Delta$ *1-533-725-11	HOLDER, FUSE (F7626)	
R2721	1-216-295-91	SHORT	0	< TRANSFORMER >			
R2722	1-216-295-91	SHORT	0	LF7627	$\Delta$ 1-433-488-11	TRANSFORMER, LINE FILTER	
R2723	1-216-027-00	RES,CHIP	120 5% 1/10W	< RESISTOR >			
R2724	1-216-295-91	SHORT	0	R7626	$\Delta$ 1-202-885-91	SOLID 1M 20% 1/2W	
R2725	1-216-021-00	RES,CHIP	68 5% 1/10W	< VARISTOR >			
R2726	1-216-295-91	SHORT	0	VDR7626	$\Delta$ 1-801-073-31	VARISTOR ERZV14D471	
R2727	1-216-295-91	SHORT	0	< CAPACITOR >			
R2734	1-216-295-91	SHORT	0	C7125	1-126-969-11	ELECT 220MF 20% 50V	
R2735	1-216-021-00	RES,CHIP	68 5% 1/10W	< RESISTOR >			
R2736	1-216-295-91	SHORT	0	< VARISTOR >			
R2738	1-216-025-91	RES,CHIP	100 5% 1/10W	< CAPACITOR >			
< CRYSTAL >				< RESISTOR >			
X2300	1-579-175-11	VIBRATOR, CERAMIC		< VARISTOR >			
*****				< CAPACITOR >			
*A-1624-073-A F BOARD, COMPLETE				< RESISTOR >			
*****				< VARISTOR >			
*4-203-258-11 HOLDER, LED				< CAPACITOR >			
< CAPACITOR >				< RESISTOR >			
C7125	1-126-969-11	ELECT	220MF 20% 50V	< VARISTOR >			



REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
* A-1630-978-A	A BOARD, COMPLETE	*****		C1326	1-163-059-91	CERAMIC CHIP 0.01MF	10% 50V
	(KV-28FX60A/28FX60B/28FX60D/28FX60E/			C1327	1-126-934-11	ELECT 220MF	20% 10V
	28FX60K/28FX60R/32FX60A/32FX60D/			C1328	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
	32FX60E/32FX60K/32FX60R)			C1601	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C1602	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
* A-1630-988-A	A BOARD, COMPLETE (KV-32FX60B)	*****		C1603	1-126-933-11	ELECT 100MF	20% 16V
* A-1630-989-A	A BOARD, COMPLETE (KV-28FX60U/32FX60U)	*****		C1604	1-126-933-11	ELECT 100MF	20% 16V
				C1605	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
4-204-625-01	HEAT SINK, AUDIO			C1607	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
4-382-854-11	SCREW (M3X10), P, SW (+)			C1608	1-126-934-11	ELECT 220MF	20% 16V
*4-931-401-01	HEAT SINK, V.OUT			C1609	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
< CAPACITOR >				C1610	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1100	1-104-664-11	ELECT 47MF	20% 25V	C1611	1-126-933-11	ELECT 100MF	20% 16V
C1101	1-104-666-11	ELECT 220MF	20% 25V	C1612	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1126	1-162-568-11	CERAMIC CHIP 0.33MF	10% 16V	C1613	1-126-933-11	ELECT 100MF	20% 16V
C1127	1-130-785-81	MYLAR 0.47MF	5% 50V	C1614	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1128	1-163-135-00	CERAMIC CHIP 560PF	5% 50V	C1615	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1129	1-130-777-00	FILM 0.1MF	5% 63V	C1617	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1130	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	< CONNECTOR >			
C1131	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	CN1111	*1-564-520-11	PLUG, CONNECTOR 5P	
C1132	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	CN1200	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P	
C1133	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN1401	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P	
C1134	1-126-961-11	ELECT 2.2MF	20% 50V	CN1600	1-900-903-64	CONNECTOR ASSY 20P	
C1135	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN1601	1-900-903-64	CONNECTOR ASSY 20P	
C1136	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN1602	1-900-903-64	CONNECTOR ASSY 20P	
C1137	1-126-943-11	ELECT 2200MF	20% 25V	CN1700	*1-568-879-11	PIN, CONNECTOR 4P	
C1138	1-126-943-11	ELECT 2200MF	20% 25V	CN1701	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
C1139	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V	CN1702	*1-568-880-51	PIN, CONNECTOR 5P	
C1140	1-128-560-11	ELECT 22MF	20% 100V	CN1703	*1-564-514-11	PLUG, CONNECTOR 11P	
C1151	1-162-568-11	CERAMIC CHIP 0.33MF	10% 16V	CN1801	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P	
C1152	1-130-785-11	MYLAR 0.47MF	5% 50V	CN1901	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P	
C1153	1-163-135-00	CERAMIC CHIP 560PF	5% 50V	< DIODE >			
C1154	1-130-777-00	FILM 0.1MF	5% 63V	D1100	8-719-914-43	DIODE DAN202K	
C1155	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D1101	8-719-914-44	DIODE DAP202K	
C1156	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D1102	8-719-914-43	DIODE DAN202K	
C1157	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	D1103	8-719-914-43	DIODE DAN202K	
C1158	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D1401	8-719-105-99	DIODE RD6.2M-B1	
C1159	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D1402	8-719-105-99	DIODE RD6.2M-B1	
C1160	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D1403	8-719-105-99	DIODE RD6.2M-B1	
C1161	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V	D1404	8-719-105-99	DIODE RD6.2M-B1	
C1162	1-128-560-11	ELECT 22MF	20% 100V	D1626	8-719-914-43	DIODE DAN202K	
C1177	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D1627	8-719-914-43	DIODE DAN202K	
C1179	1-126-964-11	ELECT 10MF	20% 50V	D1629	8-719-914-43	DIODE DAN202K	
C1180	1-126-943-11	ELECT 2200MF	20% 25V	< FERRITE BEAD >			
C1181	1-126-943-11	ELECT 2200MF	20% 25V	FB1126	1-535-303-00	LEAD, JUMPER (5.0MM)	
C1182	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB1151	1-535-303-00	LEAD, JUMPER (5.0MM)	
C1183	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1184	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V				
C1226	1-104-661-91	ELECT 330MF	20% 16V				

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< IC >				R1128	1-216-041-00	RES,CHIP	470 5% 1/10W
IC1126	8-759-544-25	IC TDA7482		R1151	1-216-631-11	METAL CHIP	150 0.50% 1/10W
IC1151	8-759-544-25	IC TDA7482		R1152	1-216-075-00	RES,CHIP	12K 5% 1/10W
IC1176	8-759-333-24	IC LM1876TF		R1153	1-216-041-00	RES,CHIP	470 5% 1/10W
IC1400	8-752-072-94	IC CXA1875AM-T4		R1176	1-216-063-91	RES,CHIP	3.9K 5% 1/10W
IC1601	8-759-457-44	IC KA78R05TU		R1179	1-216-357-00	METAL OXIDE	4.7 5% 1W F
IC1602	8-759-544-09	IC KA278R05TU		R1182	1-216-081-00	RES,CHIP	22K 5% 1/10W
IC1603	8-759-295-82	IC L78L08ACZ-AP		R1183	1-216-045-00	RES,CHIP	680 5% 1/10W
IC1604	8-759-544-13	IC KA78R09TU		R1185	1-216-089-91	RES,CHIP	47K 5% 1/10W
IC1605	8-759-544-11	IC KA78R33TU		R1201	1-216-089-91	RES,CHIP	47K 5% 1/10W
< COIL >				R1202	1-216-083-00	RES,CHIP	27K 5% 1/10W
L1126	1-416-857-11	INDUCTOR	65UH	R1203	1-216-083-00	RES,CHIP	27K 5% 1/10W
L1127	1-414-158-11	INDUCTOR	2.2UH	R1204	1-216-071-00	RES,CHIP	8.2K 5% 1/10W
L1128	1-414-158-11	INDUCTOR	2.2UH	R1205	1-216-089-91	RES,CHIP	47K 5% 1/10W
L1151	1-416-857-11	INDUCTOR	65UH	R1206	1-216-073-00	RES,CHIP	10K 5% 1/10W
L1152	1-414-158-11	INDUCTOR	2.2UH	R1207	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
L1153	1-414-158-11	INDUCTOR	2.2UH	R1208	1-216-089-91	RES,CHIP	47K 5% 1/10W
L1326	1-414-183-41	INDUCTOR	10UH	R1209	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
< TRANSISTOR >				R1210	1-216-089-91	RES,CHIP	47K 5% 1/10W
Q1100	8-729-216-22	TRANSISTOR 2SA1162-G		R1226	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1201	8-729-620-06	TRANSISTOR 2SC3052-EF		R1227	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1202	8-729-620-06	TRANSISTOR 2SC3052-EF		R1228	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1203	8-729-620-06	TRANSISTOR 2SC3052-EF		R1229	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1204	8-729-620-06	TRANSISTOR 2SC3052-EF		R1230	1-216-055-00	RES,CHIP	1.8K 5% 1/10W
Q1226	8-729-620-06	TRANSISTOR 2SC3052-EF		R1232	1-216-295-91	SHORT	0
Q1227	8-729-620-06	TRANSISTOR 2SC3052-EF		R1233	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q1229	8-729-027-38	TRANSISTOR DTA144EKA-T146		R1326	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1326	8-729-620-06	TRANSISTOR 2SC3052-EF		R1327	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1327	8-729-216-22	TRANSISTOR 2SA1162-G		R1328	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1328	8-729-620-06	TRANSISTOR 2SC3052-EF		R1329	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1329	8-729-216-22	TRANSISTOR 2SA1162-G		R1330	1-216-041-00	RES,CHIP	470 5% 1/10W
Q1400	8-729-046-47	TRANSISTOR KSC2500-BTA		R1331	1-216-041-00	RES,CHIP	470 5% 1/10W
Q1601	8-729-620-06	TRANSISTOR 2SC3052-EF		R1332	1-216-041-00	RES,CHIP	470 5% 1/10W
Q1626	8-729-620-06	TRANSISTOR 2SC3052-EF		R1333	1-216-075-00	RES,CHIP	12K 5% 1/10W
< RESISTOR >				R1334	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
JR1601	1-216-296-91	SHORT	0	R1335	1-216-025-91	RES,CHIP	100 5% 1/10W
R1001	1-216-295-91	SHORT	0	R1336	1-216-041-00	RES,CHIP	470 5% 1/10W
R1002	1-216-295-91	SHORT	0	R1337	1-216-041-00	RES,CHIP	470 5% 1/10W
R1003	1-216-295-91	SHORT	0	R1338	1-216-001-00	RES,CHIP	10 5% 1/10W
R1004	1-216-295-91	SHORT	0	R1339	1-216-041-00	RES,CHIP	470 5% 1/10W
R1005	1-216-295-91	SHORT	0	R1340	1-216-043-91	RES,CHIP	560 5% 1/10W
R1006	1-216-295-91	SHORT	0	R1400	1-216-053-00	RES,CHIP	1.5K 5% 1/10W
R1100	1-216-025-91	RES,CHIP	100 5% 1/10W	R1401	1-216-081-00	RES,CHIP	22K 5% 1/10W
R1101	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R1403	1-216-295-91	SHORT	0
R1102	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R1404	1-216-295-91	SHORT	0
R1126	1-216-631-11	METAL CHIP	150 0.50% 1/10W	R1601	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R1127	1-216-075-00	RES,CHIP	12K 5% 1/10W	R1602	1-216-691-11	METAL CHIP	47K 0.50% 1/10W
				R1603	1-216-025-91	RES,CHIP	100 5% 1/10W
				R1605	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R1609	1-216-089-91	RES,CHIP	47K 5% 1/10W
				R1610	1-216-065-91	RES,CHIP	4.7K 5% 1/10W



REF.NO.	PART.NO	DESCRIPTION	REMARK		
R1615	1-216-025-91	RES,CHIP	100	5%	1/10W
R1616	1-216-304-11	RES,CHIP	3.3	5%	1/10W
R1617	1-216-304-11	RES,CHIP	3.3	5%	1/10W
R1618	1-216-295-91	SHORT	0		
R1621	1-216-027-00	RES,CHIP	120	5%	1/10W
R1622	1-216-029-00	RES,CHIP	150	5%	1/10W
R1623	1-216-033-00	RES,CHIP	220	5%	1/10W
R1625	1-216-295-91	SHORT	0		

< TUNER >

TU1326	1-693-338-11	TUNER/VIF (AEP) (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/32FX60A/32FX60D/ 32FX60E/32FX60K/32FX60R)			
	1-693-340-11	TUNER/VIF (FR) (KV-32FX60B)			
	1-693-339-11	TUNER/VIF (UK) (KV-28FX60U/32FX60U)			

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\*A-1634-047-A M BOARD, COMPLETE  
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< CAPACITOR >

C9100	1-115-340-11	CERAMIC CHIP 0.22MF	10%	25V
C9101	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C9102	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C9104	1-104-664-11	ELECT 47MF	20%	25V
C9105	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9110	1-165-321-11	CERAMIC CHIP 0.68MF	10%	16V
C9111	1-164-157-11	CERAMIC CHIP 0.068MF	10%	25V
C9112	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9113	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9114	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9115	1-115-340-11	CERAMIC CHIP 0.22MF	10%	25V
C9117	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9118	1-104-664-11	ELECT 47MF	20%	25V
C9119	1-163-259-91	CERAMIC CHIP 220PF	5%	50V
C9121	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C9122	1-115-340-11	CERAMIC CHIP 0.22MF	10%	25V
C9123	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9124	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9125	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9126	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C9127	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C9128	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C9129	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C9130	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C9131	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C9132	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9400	1-115-340-11	CERAMIC CHIP 0.22MF	10%	25V
C9500	1-104-664-11	ELECT 47MF	20%	25V
C9502	1-104-664-11	ELECT 47MF	20%	25V
C9503	1-126-964-11	ELECT 10MF	20%	50V

REF.NO.	PART.NO	DESCRIPTION	REMARK	
C9504	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9505	1-104-665-11	ELECT 100MF	20%	25V
C9506	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C9507	1-115-340-11	CERAMIC CHIP 0.22MF	10%	25V
C9508	1-115-340-11	CERAMIC CHIP 0.22MF	10%	25V
C9509	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C9510	1-115-340-11	CERAMIC CHIP 0.22MF	10%	25V
C9511	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9512	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C9513	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V

C9514	1-163-235-11	CERAMIC CHIP 22PF	5%	50V
C9515	1-163-235-11	CERAMIC CHIP 22PF	5%	50V
C9516	1-163-251-11	CERAMIC CHIP 100PF	5%	50V
C9517	1-163-021-91	CERAMIC CHIP 0.01MF	10%	50V
C9518	1-115-340-11	CERAMIC CHIP 0.22MF	10%	25V

C9519	1-126-964-11	ELECT 10MF	20%	50V
C9520	1-163-251-11	CERAMIC CHIP 100PF	5%	50V

< CONNECTOR >

CN9101	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P
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< DIODE >

D9100	8-719-988-62	DIODE 1SS355
D9101	8-719-988-62	DIODE 1SS355
D9102	8-719-988-62	DIODE 1SS355
D9103	8-719-988-62	DIODE 1SS355
D9104	8-719-056-83	DIODE UDZ-TE-17-6.8B
D9105	8-719-914-43	DIODE DAN202K
D9107	8-719-025-31	DIODE 02C25.6-TE85L
D9108	8-719-914-44	DIODE DAP202K
D9109	8-719-105-91	DIODE RD5.6M-B2
D9110	8-719-914-43	DIODE DAN202K
D9111	8-719-105-91	DIODE RD5.6M-B2

< FILTER >

FL9101	1-236-071-11	ENCAPSULATED COMPONENT
FL9500	1-236-071-11	ENCAPSULATED COMPONENT
FL9501	1-236-071-11	ENCAPSULATED COMPONENT

< IC >

IC9100	8-759-988-13	IC LM393PS
IC9104	8-759-259-18	IC MB3793-42PNF
IC9105	8-759-544-30	IC SAB-C161R1-LM
IC9107	8-759-395-27	IC TC55257DFTL-70V
IC9108	8-759-531-64	IC M24C32-BN6
IC9110	8-759-559-96	IC HEF4094BT
IC9500	8-759-034-47	IC MC74F00M-T2
IC9501	8-759-426-56	IC MB814400C-70PJN-ER
IC9502	8-759-438-62	IC SDA5275

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< COIL >				R9145	1-216-049-91	RES,CHIP	1K 5% 1/10W
L9400	1-412-029-11	INDUCTOR CHIP 10UH		R9146	1-216-049-91	RES,CHIP	1K 5% 1/10W
L9401	1-412-029-11	INDUCTOR CHIP 10UH		R9147	1-216-049-91	RES,CHIP	1K 5% 1/10W
< TRANSISTOR >				R9148	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q9100	8-729-620-06	TRANSISTOR 2SC3052-EF		R9149	1-216-025-91	RES,CHIP	100 5% 1/10W
Q9101	8-729-620-06	TRANSISTOR 2SC3052-EF		R9150	1-216-025-91	RES,CHIP	100 5% 1/10W
Q9102	8-729-216-22	TRANSISTOR 2SA1162-G		R9151	1-216-025-91	RES,CHIP	100 5% 1/10W
Q9103	8-729-620-06	TRANSISTOR 2SC3052-EF		R9153	1-216-025-91	RES,CHIP	100 5% 1/10W
Q9105	8-729-620-06	TRANSISTOR 2SC3052-EF		R9159	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q9106	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9161	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q9107	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9162	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q9108	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9164	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q9109	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9166	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q9110	8-729-620-06	TRANSISTOR 2SC3052-EF		R9168	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q9110	8-729-620-06	TRANSISTOR 2SC3052-EF		R9169	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q9500	8-729-216-22	TRANSISTOR 2SA1162-G		R9172	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q9501	8-729-216-22	TRANSISTOR 2SA1162-G		R9173	1-216-295-91	SHORT	0
Q9502	8-729-216-22	TRANSISTOR 2SA1162-G		R9174	1-216-025-91	RES,CHIP	100 5% 1/10W
Q9503	1-801-806-11	TRANSISTOR DTC144EKA-T146		R9175	1-216-025-91	RES,CHIP	100 5% 1/10W
Q9504	1-801-806-11	TRANSISTOR DTC144EKA-T146		R9176	1-216-025-91	RES,CHIP	100 5% 1/10W
< RESISTOR >				R9177	1-216-025-91	RES,CHIP	100 5% 1/10W
R9100	1-216-073-00	RES,CHIP	10K 5% 1/10W	R9178	1-216-025-91	RES,CHIP	100 5% 1/10W
R9101	1-216-033-00	RES,CHIP	220 5% 1/10W	R9184	1-216-025-91	RES,CHIP	100 5% 1/10W
R9102	1-216-033-00	RES,CHIP	220 5% 1/10W	R9185	1-216-025-91	RES,CHIP	100 5% 1/10W
R9103	1-216-025-91	RES,CHIP	100 5% 1/10W	R9186	1-216-025-91	RES,CHIP	100 5% 1/10W
R9104	1-216-073-00	RES,CHIP	10K 5% 1/10W	R9187	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
R9105	1-216-073-00	RES,CHIP	10K 5% 1/10W	R9188	1-216-025-91	RES,CHIP	100 5% 1/10W
R9107	1-216-025-91	RES,CHIP	100 5% 1/10W	R9189	1-216-025-91	RES,CHIP	100 5% 1/10W
R9108	1-216-025-91	RES,CHIP	100 5% 1/10W	R9190	1-216-025-91	RES,CHIP	100 5% 1/10W
R9109	1-216-073-00	RES,CHIP	10K 5% 1/10W	R9191	1-216-025-91	RES,CHIP	100 5% 1/10W
R9110	1-216-081-00	RES,CHIP	22K 5% 1/10W	R9192	1-216-025-91	RES,CHIP	100 5% 1/10W
R9111	1-216-025-91	RES,CHIP	100 5% 1/10W	R9193	1-216-097-91	RES,CHIP	100K 5% 1/10W
R9112	1-216-025-91	RES,CHIP	100 5% 1/10W	R9194	1-216-097-91	RES,CHIP	100K 5% 1/10W
R9113	1-216-033-00	RES,CHIP	220 5% 1/10W	R9195	1-216-097-91	RES,CHIP	100K 5% 1/10W
R9114	1-216-083-00	RES,CHIP	27K 5% 1/10W	R9196	1-216-073-00	RES,CHIP	10K 5% 1/10W
R9115	1-216-081-00	RES,CHIP	22K 5% 1/10W	R9197	1-216-073-00	RES,CHIP	10K 5% 1/10W
R9116	1-216-073-00	RES,CHIP	10K 5% 1/10W	R9500	1-216-295-91	SHORT	0
R9117	1-216-073-00	RES,CHIP	10K 5% 1/10W	R9501	1-216-295-91	SHORT	0
R9119	1-216-073-00	RES,CHIP	10K 5% 1/10W	R9502	1-216-295-91	SHORT	0
R9120	1-216-073-00	RES,CHIP	10K 5% 1/10W	R9504	1-216-041-00	RES,CHIP	470 5% 1/10W
R9121	1-216-017-91	RES,CHIP	47 5% 1/10W	R9505	1-216-051-00	RES,CHIP	1.2K 5% 1/10W
R9122	1-216-049-91	RES,CHIP	1K 5% 1/10W	R9506	1-216-073-00	RES,CHIP	10K 5% 1/10W
R9123	1-216-073-00	RES,CHIP	10K 5% 1/10W	R9507	1-216-097-91	RES,CHIP	100K 5% 1/10W
R9127	1-216-049-91	RES,CHIP	1K 5% 1/10W	R9508	1-216-017-91	RES,CHIP	47 5% 1/10W
R9138	1-216-049-91	RES,CHIP	1K 5% 1/10W	R9509	1-216-049-91	RES,CHIP	1K 5% 1/10W
R9140	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R9510	1-216-017-91	RES,CHIP	47 5% 1/10W
R9141	1-216-049-91	RES,CHIP	1K 5% 1/10W	R9511	1-216-049-91	RES,CHIP	1K 5% 1/10W
R9142	1-216-041-00	RES,CHIP	470 5% 1/10W	R9512	1-216-017-91	RES,CHIP	47 5% 1/10W
R9143	1-216-049-91	RES,CHIP	1K 5% 1/10W	R9513	1-216-017-91	RES,CHIP	47 5% 1/10W
R9144	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R9514	1-216-017-91	RES,CHIP	47 5% 1/10W
				R9515	1-216-295-91	SHORT	0

**M****C**

The components identified by shading and marked **Δ** are critical for safety  
Replace only with the part number specified.

REF.NO.	PART.NO	DESCRIPTION	REMARK
R9516	1-216-295-91	SHORT	0
R9517	1-216-295-91	SHORT	0
R9518	1-216-049-91	RES,CHIP	1K 5% 1/10W
R9519	1-216-039-00	RES,CHIP	390 5% 1/10W
R9520	1-216-039-00	RES,CHIP	390 5% 1/10W
R9521	1-216-039-00	RES,CHIP	390 5% 1/10W
R9522	1-216-295-91	SHORT	0
R9523	1-216-295-91	SHORT	0
R9524	1-216-295-91	SHORT	0
R9525	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R9526	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R9527	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R9528	1-216-025-91	RES,CHIP	100 5% 1/10W
R9529	1-216-025-91	RES,CHIP	100 5% 1/10W
R9530	1-216-025-91	RES,CHIP	100 5% 1/10W
R9531	1-216-295-91	SHORT	0
R9532	1-216-061-00	RES,CHIP	3.3K 5% 1/10W
< CRYSTAL >			
X9101	1-781-107-21	RESONATOR	
X9500	1-760-551-21	VIBRATOR, CERAMIC	
*****			
* A-1638-123-A C BOARD, COMPLETE			
*****			
1-671-108-11 PWB, CIC			
4-382-854-11 SCREW (M3X10), P, SW			
< CAPACITOR >			
C5301	1-102-129-91	CERAMIC	0.01MF 10% 50V
C5302	1-128-525-91	ELECT	470MF 20% 16V
C5304	1-107-657-91	ELECT	1MF 20% 350V
C5305	1-137-052-91	FILM	0.047MF 10% 400V
C5306	1-102-157-91	CERAMIC	560PF 10% 500V
C5325	1-102-959-91	CERAMIC	22PF 5% 50V
C5326	1-102-157-91	CERAMIC	560PF 10% 500V
C5327	1-102-129-91	CERAMIC	0.01MF 10% 50V
C5328	1-128-525-91	ELECT	470MF 20% 16V
C5329	1-107-967-91	ELECT	1MF 20% 400V
C5350	1-107-907-91	ELECT	22MF 20% 50V
C5352	1-102-157-91	CERAMIC	560PF 10% 500V
C5353	1-102-129-91	CERAMIC	0.01MF 10% 50V
C5354	1-128-525-91	ELECT	470MF 20% 16V
C5355	1-107-657-91	ELECT	1MF 20% 350V
C5356	1-137-052-91	FILM	0.047MF 10% 400V
C5375	1-107-902-91	ELECT	1MF 20% 50V
C5377	1-162-115-91	CERAMIC	330PF 10% 2KV
C5378	1-162-116-91	CERAMIC	680PF 10% 2KV
C5379	1-162-114-71	CERAMIC	0.0047MF 2KV
C5380	1-107-652-91	ELECT	10MF 20% 250V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C5381	1-162-116-91	CERAMIC	680PF 10% 2KV
C5382	1-162-114-71	CERAMIC	0.0047MF 2KV
< CONNECTOR >			
CN5400	1-564-511-11	PLUG, CONNECTOR 8P	
CN5511	1-695-915-21	TAB (CONTACT)	
CN5522	1-695-915-21	TAB (CONTACT)	
CN5600	1-508-766-12	PIN, CONNECTOR (5MM PITCH) 4P	
< DIODE >			
D5300	8-719-921-20	DIODE 1SS119-25TD	
D5302	8-719-989-09	DIODE 1SS83TA	
D5325	8-719-921-20	DIODE 1SS119-25TD	
D5326	8-719-923-58	DIODE MTZJ-T-77-9.1A	
D5327	8-719-989-09	DIODE 1SS83TA	
D5350	8-719-921-20	DIODE 1SS119-25TD	
D5351	8-719-991-33	DIODE 1SS133T-77	
D5353	8-719-989-09	DIODE 1SS83TA	
D5375	8-719-991-33	DIODE 1SS133T-77	
D5376	8-719-991-33	DIODE 1SS133T-77	
D5377	8-719-936-83	DIODE GP08DPKG23	
D5378	8-719-923-84	DIODE MTZJ-T-77-13B	
D5379	8-719-982-96	DIODE MTZJ-T-77-2.2A	
D5380	8-719-982-96	DIODE MTZJ-T-77-2.2A	
D5381	8-719-031-34	DIODE RGP02-20EG23	
< IC >			
IC5300	8-759-360-83	IC TDA6111Q/N4	
IC5325	8-759-360-83	IC TDA6111Q/N4	
IC5350	8-759-360-83	IC TDA6111Q/N4	
< SOCKET >			
J5375	Δ 1-540-071-22	SOCKET, CRT	
< COIL >			
L5300	1-408-599-41	INDUCTOR	4.7UH
L5325	1-408-599-41	INDUCTOR	4.7UH
L5350	1-408-599-41	INDUCTOR	4.7UH
L5375	1-410-671-41	INDUCTOR	47UH
L5376	1-532-637-91	LINK, IC 1A/150V (ICP-F25)	
L5377	1-414-183-40	INDUCTOR	10UH
< TRANSISTOR >			
Q5300	8-729-204-98	TRANSISTOR 2SC25510-TPE2	
Q5325	8-729-204-98	TRANSISTOR 2SC25510-TPE2	
Q5350	8-729-029-57	TRANSISTOR DTA144ESA-TP	
Q5351	8-729-204-98	TRANSISTOR 2SC25510-TPE2	
Q5375	8-729-900-95	TRANSISTOR 2SC1740S-RT	
Q5376	8-729-026-40	TRANSISTOR 2SA933AS-RT	

REF.NO.	PART.NO	DESCRIPTION	REMARK			REF.NO.	PART.NO	DESCRIPTION	REMARK			
< RESISTOR >						*A-1640-329-A D1 BOARD, COMPLETE (KV-28FX60) *****						
R5300	1-247-831-91	CARBON	1K	5%	1/4W	*A-1640-322-A D1 BOARD, COMPLETE (KV-32FX60) *****						
R5301	1-247-823-91	CARBON	470	5%	1/4W	4-382-854-11 SCREW (M3X10), P, SW (+)						
R5302	1-247-813-91	CARBON	180	5%	1/4W	< CAPACITOR >						
R5303	1-247-831-91	CARBON	1K	5%	1/4W	C6100	1-136-165-00	FILM	0.1MF	5%	50V	
R5304	1-202-565-81	SOLID	470	20%	1/2W	C6101	1-136-165-00	FILM	0.1MF	5%	50V	
R5305	1-215-926-51	METAL OXIDE	33K	5%	3W F	C6102	1-136-165-00	FILM	0.1MF	5%	50V	
R5306	1-247-845-91	CARBON	3.9K	5%	1/4W	C6103	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V	
R5307	1-247-863-91	CARBON	22K	5%	1/4W	C6104	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V	
R5325	1-247-831-91	CARBON	1K	5%	1/4W	C6105	1-126-967-11	ELECT	47MF	20%	50V	
R5326	1-247-823-91	CARBON	680	5%	1/4W	C6106	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
R5327	1-247-813-91	CARBON	180	5%	1/4W	C6108	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	
R5328	1-249-417-11	CARBON	1K	5%	1/4W	C6109	1-126-967-11	ELECT	47MF	20%	50V	
R5329	1-202-565-81	SOLID	470	20%	1/2W	C6110	1-126-967-11	ELECT	47MF	20%	50V	
R5330	1-215-926-51	METAL OXIDE	33K	5%	3W F	C6111	1-126-967-11	ELECT	47MF	20%	50V	
R5331	1-247-845-91	CARBON	3.9K	5%	1/4W	C6112	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V	
R5332	1-247-863-91	CARBON	22K	5%	1/4W	C6113	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	
R5350	1-249-417-11	CARBON	1K	5%	1/4W	C6114	1-126-964-11	ELECT	10MF	20%	50V	
R5351	1-247-823-91	CARBON	470	5%	1/4W	C6115	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
R5352	1-247-829-91	CARBON	820	5%	1/4W	C6116	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V	
R5353	1-247-839-91	CARBON	2.2K	5%	1/4W	C6117	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V	
R5354	1-247-833-91	CARBON	1.2K	5%	1/4W	C6119	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	
R5355	1-247-813-91	CARBON	180	5%	1/4W	C6121	1-126-964-11	ELECT	10MF	20%	50V	
R5356	1-249-417-11	CARBON	1K	5%	1/4W	C6122	1-126-967-11	ELECT	47MF	20%	50V	
R5357	1-202-565-81	SOLID	470	20%	1/2W	C6125	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
R5358	1-215-926-51	METAL OXIDE	33K	5%	3W F	C6126	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
R5359	1-247-863-91	CARBON	22K	5%	1/4W	C6127	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	
R5360	1-247-845-91	CARBON	3.9K	5%	1/4W	C6128	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
R5361	1-247-859-91	CARBON	4.7K	5%	1/4W	C6129	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
R5375	1-247-867-91	CARBON	33K	5%	1/4W	(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)						
R5376	1-247-855-91	CARBON	10K	5%	1/4W	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V		
R5377	1-247-857-91	CARBON	12K	5%	1/4W	(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)						
R5378	1-247-855-91	CARBON	10K	5%	1/4W	C6130	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	
R5379	1-247-873-91	CARBON	56K	5%	1/4W	(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)						
R5380	1-247-863-91	CARBON	22K	5%	1/4W	C6131	1-126-964-11	ELECT	10MF	20%	50V	
R5381	1-247-837-91	CARBON	1.8K	5%	1/4W	C6132	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	
R5382	1-202-549-81	SOLID	100	20%	1/2W	C6199	1-163-229-11	CERAMIC CHIP	12PF	5%	50V	
R5383	1-216-399-51	METAL OXIDE	6.8	5%	3W F	C6207	1-126-967-11	ELECT	47MF	20%	50V	
R5384	1-216-399-51	METAL OXIDE	6.8	5%	3W F	C6208	1-126-967-11	ELECT	47MF	20%	50V	
R5385	1-202-549-81	SOLID	100	20%	1/2W	C6209	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
R5386	1-202-884-91	SOLID	820K	20%	1/2W	C6210	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
R5387	1-202-884-91	SOLID	820K	20%	1/2W	C6250	1-104-664-11	ELECT	47MF	20%	16V	
R5388	1-215-911-51	METAL OXIDE	100	5%	3W F	C6253	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V	
R5389	1-249-417-91	CARBON	1K	5%	1/4W F	C6254	1-136-177-00	FILM	1MF	5%	50V	
< VARIABLE RESISTOR >						C6255	1-136-177-00	FILM	1MF	5%	50V	
RV5375	1-241-656-21	RES, ADJ, METAL FILM 110M				C6256	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
RV5376	1-230-641-21	RES, ADJ, METAL GLAZE 2.2M										

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C6257	1-115-339-11	CERAMIC CHIP 0.1MF	10% 50V	< CONNECTOR >			
C6258	1-163-127-00	CERAMIC CHIP 270PF	5% 50V	CN6502	1-564-509-11	PLUG, CONNECTOR 6P (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
C6259	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V		*1-568-881-51	PIN, CONNECTOR 6P (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
C6260	1-104-664-11	ELECT 47MF	20% 16V	CN6601	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P	
C6261	1-115-339-11	CERAMIC CHIP 0.1MF	10% 50V		CN6622	*1-568-878-51	PIN, CONNECTOR 3P
C6262	1-136-165-00	FILM 0.1MF	5% 50V		CN6633	*1-568-878-51	PIN, CONNECTOR 3P
C6263	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	< DIODE >			
C6264	1-126-964-11	ELECT 10MF	20% 50V	D6100	8-719-914-43	DIODE DAN202K	
C6306	1-126-964-11	ELECT 10MF	20% 50V	D6101	8-719-921-40	DIODE MTZJ-4.7C	
C6307	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	D6102	8-719-914-43	DIODE DAN202K	
C6350	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D6104	8-719-914-43	DIODE DAN202K	
C6351	1-126-967-11	ELECT 47MF	20% 50V	D6105	8-719-914-43	DIODE DAN202K	
C6353	1-115-339-11	CERAMIC CHIP 0.1MF	10% 50V	D6106	8-719-914-43	DIODE DAN202K	
C6354	1-136-159-00	FILM 0.033MF	5% 50V	D6107	8-719-914-47	DIODE DAN202K-T-146	
C6355	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D6108	8-719-921-40	DIODE MTZJ-4.7C	
C6356	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	D6127	8-719-914-43	DIODE DAN202K	
C6357	1-136-165-00	FILM 0.1MF	5% 50V	D6128	8-719-914-43	DIODE DAN202K	
C6358	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V	D6129	8-719-914-43	DIODE DAN202K	
C6359	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V	D6198	8-719-109-54	DIODE MTZJ-T-77-2.2B	
C6360	1-107-714-11	ELECT 10MF	20% 50V	D6253	8-719-911-19	DIODE 1SS119-25	
C6361	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D6254	1-535-303-00	LEAD, JUMPER (5.0MM)	
C6362	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V	D6255	8-719-914-43	DIODE DAN202K	
C6363	1-104-665-11	ELECT 100MF	20% 25V	D6350	8-719-914-43	DIODE DAN202K (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
C6364	1-137-493-11	FILM 0.0047MF	5% 630V	D6351	8-719-914-43	DIODE DAN202K	
C6365	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	D6352	8-719-914-43	DIODE DAN202K	
C6367	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V	D6353	8-719-987-87	DIODE ERA85-009	
C6368	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	D6354	8-719-914-43	DIODE DAN202K	
C6370	1-137-493-11	FILM 0.0047MF	5% 630V	D6355	8-719-914-43	DIODE DAN202K	
C6371	1-137-493-11	FILM 0.0047MF	5% 630V	D6358	8-719-914-43	DIODE DAN202K	
C6373	1-136-153-00	FILM 0.01MF	5% 50V	D6359	8-719-302-43	DIODE EL1Z	
C6374	1-137-499-11	FILM 0.015MF	5% 630V	D6401	8-719-914-43	DIODE DAN202K	
C6375	1-102-110-00	CERAMIC 220PF	10% 50V	D6402	8-719-982-03	DIODE MTZJ-3.6A	
C6376	1-104-664-11	ELECT 47MF	20% 16V	D6403	8-719-921-63	DIODE MTZJ-7.5B	
C6377	1-128-551-11	ELECT 22MF	20% 25V	D6404	8-719-914-43	DIODE DAN202K	
C6378	1-115-339-11	CERAMIC CHIP 0.1MF	10% 50V	D6405	8-719-921-63	DIODE MTZJ-7.5B	
C6380	1-136-165-00	FILM 0.1MF	5% 50V	< IC >			
C6381	1-126-960-11	ELECT 1MF	20% 50V	IC6100	8-759-103-93	IC LM393N (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
C6385	1-104-664-11	ELECT 47MF	20% 25V	8-759-450-95 IC LM393N (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)			
C6386	1-104-664-11	ELECT 47MF	20% 25V				
C6388	1-126-964-11	ELECT 10MF	20% 50V				
C6389	1-126-964-11	ELECT 10MF	20% 50V				
C6392	1-104-664-11	ELECT 47MF	20% 25V				
C6401	1-126-964-11	ELECT 10MF	20% 50V				
C6402	1-107-714-11	ELECT 10MF	20% 50V				
C6407	1-136-161-00	FILM 0.047MF	5% 50V				
C6408	1-136-161-00	FILM 0.047MF	5% 50V				
C6409	1-126-964-11	ELECT 10MF	20% 50V				



The components identified by shading and marked **△** are critical for safety  
Replace only with the part number specified.

**D1**

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
IC6101	8-759-103-93	IC LM393N (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		Q6112	8-729-620-06	TRANSISTOR 2SC3052-EF	
	8-759-450-95	IC LM393N (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		Q6113	8-729-620-06	TRANSISTOR 2SC3052-EF	
IC6102	8-759-701-50	IC NJM3404AD		Q6118	8-729-620-06	TRANSISTOR 2SC3052-EF	
IC6103	8-759-450-95	IC LM393N		Q6119	8-729-216-22	TRANSISTOR 2SA1162-G	
IC6250	8-759-478-66	IC CXA8070P		Q6120	8-729-216-22	TRANSISTOR 2SA1162-G	
IC6251	8-759-903-16	IC LM318P					
IC6302	8-752-072-94	IC CXA1875AM-T4		Q6122	8-729-216-22	TRANSISTOR 2SA1162-G	
IC6350	8-759-135-80	IC LM358P (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		Q6123	8-729-216-22	TRANSISTOR 2SA1162-G	
	8-759-008-70	IC LM358N (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		Q6125	8-729-620-06	TRANSISTOR 2SC3052-EF	
IC6351	8-759-103-93	IC LM393P (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		Q6126	8-729-216-22	TRANSISTOR 2SA1162-G	
	8-759-450-95	IC LM393N (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		Q6127	8-729-216-22	TRANSISTOR 2SA1162-G	
IC6352	8-759-103-93	IC LM393P (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		Q6128	8-729-620-06	TRANSISTOR 2SC3052-EF	
	8-759-450-95	IC LM393N (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		Q6129	8-729-216-22	TRANSISTOR 2SA1162-G	
IC6353	8-759-231-53	IC TA7805S		Q6130	8-729-216-22	TRANSISTOR 2SA1162-G	
IC6354	8-759-325-48	IC CA0005AD		Q6131	8-729-620-06	TRANSISTOR 2SC3052-EF	
IC6355	8-759-008-70	IC LM358N		Q6201	8-729-620-06	TRANSISTOR 2SC3052-EF	
IC6356	8-759-822-38	IC LA6510					
< FILTER >				Q6202	8-729-620-06	TRANSISTOR 2SC3052-EF	
LF6350	1-406-989-21	INDUCTOR	0UH	Q6250	8-729-620-06	TRANSISTOR 2SC3052-EF	
LF6351	1-406-989-21	INDUCTOR	0UH	Q6251	8-729-620-06	TRANSISTOR 2SC3052-EF	
< IC LINK >				Q6252	8-729-216-22	TRANSISTOR 2SA1162-G	
PS6376	△ 1-532-637-00	LINK, IC 1A (ICP-N25)		Q6253	8-729-017-06	TRANSISTOR 2SC4793	
< TRANSISTOR >				Q6254	8-729-017-05	TRANSISTOR 2SA1837	
Q6100	8-729-620-06	TRANSISTOR 2SC3052-EF		Q6350	8-729-620-06	TRANSISTOR 2SC3052-EF	
Q6101	8-729-620-06	TRANSISTOR 2SC3052-EF		Q6351	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q6102	8-729-620-06	TRANSISTOR 2SC3052-EF		Q6352	8-729-140-97	TRANSISTOR 2SB734-34	
Q6103	8-729-620-06	TRANSISTOR 2SC3052-EF		Q6353	8-729-140-97	TRANSISTOR 2SB734-34	
Q6104	8-729-620-06	TRANSISTOR 2SC3052-EF		Q6354	8-729-620-06	TRANSISTOR 2SC3052-EF	
Q6105	8-729-620-06	TRANSISTOR 2SC3052-EF		Q6356	8-729-620-06	TRANSISTOR 2SC3052-EF	
Q6106	8-729-620-06	TRANSISTOR 2SC3052-EF		Q6358	8-729-038-83	TRANSISTOR 2SK2251-01-F19	
Q6107	8-729-620-06	TRANSISTOR 2SC3052-EF		Q6401	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q6108	8-729-216-22	TRANSISTOR 2SA1162-G		Q6402	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q6110	8-729-216-22	TRANSISTOR 2SA1162-G					
< RESISTOR >				Q6403	8-729-620-06	TRANSISTOR 2SC3052-EF	
				Q6404	8-729-216-22	TRANSISTOR 2SA1162-G	
				Q6405	8-729-216-22	TRANSISTOR 2SA1162-G	
				Q6455	8-729-620-06	TRANSISTOR 2SC3052-EF	
				Q6465	8-729-620-06	TRANSISTOR 2SC3052-EF	
				R6100	1-216-033-00	RES,CHIP 220 5% 1/10W	
				R6101	1-216-033-00	RES,CHIP 220 5% 1/10W	
				R6102	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
				R6103	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
				R6104	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
				R6105	1-216-049-91	RES,CHIP 1K 5% 1/10W	
				R6106	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
				R6107	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
				R6108	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
				R6109	1-216-683-11	METAL CHIP 22K 0.5% 1/10W	
						(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
					1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
						(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	

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REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R6110	1-216-691-11	METAL CHIP	47K 0.50% 1/10W	R6146	1-216-085-00	RES,CHIP 33K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6111	1-216-057-00	RES,CHIP	2.2K 5% 1/10W		1-216-065-91	RES,CHIP 4.7K 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6112	1-216-057-00	RES,CHIP	2.2K 5% 1/10W				
R6113	1-216-073-00	RES,CHIP	10K 5% 1/10W				
R6114	1-216-073-00	RES,CHIP	10K 5% 1/10W				
R6115	1-216-089-91	RES,CHIP	47K 5% 1/10W				
R6116	1-216-089-91	RES,CHIP	47K 5% 1/10W	R6147	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R6117	1-216-073-00	RES,CHIP	10K 5% 1/10W	R6148	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R6118	1-216-073-00	RES,CHIP	10K 5% 1/10W	R6149	1-216-025-91	RES,CHIP 100 5% 1/10W	
R6119	1-216-073-00	RES,CHIP	10K 5% 1/10W	R6154	1-216-057-00	RES,CHIP 2.2K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6120	1-216-057-00	RES,CHIP	2.2K 5% 1/10W		1-216-041-00	RES,CHIP 470 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6121	1-216-057-00	RES,CHIP	2.2K 5% 1/10W				
R6122	1-216-057-00	RES,CHIP	2.2K 5% 1/10W				
R6123	1-216-089-91	RES,CHIP	47K 5% 1/10W				
R6124	1-216-089-91	RES,CHIP	47K 5% 1/10W				
R6125	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6155	1-216-067-00	RES,CHIP 5.6K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6126	1-216-037-00	RES,CHIP	330 5% 1/10W		1-216-065-91	RES,CHIP 4.7K 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6127	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W				
R6128	1-216-691-11	METAL CHIP	47K 0.50% 1/10W				
R6129	1-216-691-11	METAL CHIP	47K 0.50% 1/10W				
R6130	1-218-768-11	METAL CHIP	470K 0.50% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	R6158	1-216-675-11	METAL CHIP 10K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6131	1-216-037-00	RES,CHIP	330 5% 1/10W		1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6132	1-216-037-00	RES,CHIP	330 5% 1/10W				
R6133	1-216-037-00	RES,CHIP	330 5% 1/10W				
R6134	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6159	1-216-295-91	SHORT 0	
R6135	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6160	1-216-295-91	SHORT 0 (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6136	1-216-691-11	METAL CHIP	47K 0.50% 1/10W		1-216-655-11	METAL CHIP 1.5K 0.50% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6137	1-216-691-11	METAL CHIP	47K 0.50% 1/10W				
R6138	1-216-691-11	METAL CHIP	47K 0.50% 1/10W				
R6139	1-216-691-11	METAL CHIP	47K 0.50% 1/10W				
R6140	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6161	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6141	1-216-069-00	RES,CHIP	6.8K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		1-216-669-11	METAL CHIP 5.6K 0.50% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
	1-216-065-91	RES,CHIP	4.7K 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)				
R6142	1-216-057-00	RES,CHIP	2.2K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	R6162	1-216-049-91	RES,CHIP 1K 5% 1/10W	
	1-216-053-00	RES,CHIP	1.5K 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	R6165	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
				R6168	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R6143	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6169	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R6145	1-216-075-00	RES,CHIP	12K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	R6170	1-216-037-00	RES,CHIP 330 5% 1/10W	
	1-216-045-00	RES,CHIP	680 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
				R6174	1-216-075-00	PES,CHIP 12K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
					1-216-081-00	RES,CHIP 22K 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
				R6175	1-216-075-00	RES,CHIP 12K 5% 1/10W	

REF. NO.	PART. NO	DESCRIPTION	REMARK	REF. NO.	PART. NO	DESCRIPTION	REMARK
R6176	1-216-295-91	SHORT	0	R6210	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6177	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R6211	1-216-073-00	RES,CHIP	10K 5% 1/10W
R6178	1-216-073-00	RES,CHIP	10K 5% 1/10W	R6212	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6179	1-216-067-00	RES,CHIP	5.6K 5% 1/10W	R6215	1-216-089-91	RES,CHIP	47K 5% 1/10W
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)				(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	R6216	1-216-089-91	RES,CHIP	47K 5% 1/10W
		(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		R6217	1-216-073-00	RES,CHIP	10K 5% 1/10W
R6180	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6254	1-216-049-91	RES,CHIP	1K 5% 1/10W
R6182	1-216-089-91	RES,CHIP	47K 5% 1/10W	R6255	1-216-061-00	RES,CHIP	3.3K 5% 1/10W
R6183	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6256	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6186	1-216-295-91	SHORT	0	R6257	1-216-061-00	RES,CHIP	3.3K 5% 1/10W
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R6258	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
	1-216-049-91	RES,CHIP	1K 5% 1/10W	R6259	1-216-097-91	RES,CHIP	100K 5% 1/10W
		(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		R6260	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R6261	1-216-097-91	RES,CHIP	100K 5% 1/10W
R6187	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R6262	1-260-321-71	CARBON	270 5% 1/2W
R6188	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R6263	1-216-025-91	RES,CHIP	100 5% 1/10W
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R6264	1-216-025-91	RES,CHIP	100 5% 1/10W
R6189	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R6265	1-216-101-00	RES,CHIP	150K 5% 1/10W
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R6267	1-216-049-91	RES,CHIP	1K 5% 1/10W
	1-216-049-91	RES,CHIP	1K 5% 1/10W	R6269	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
		(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		R6270	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
R6190	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6271	1-216-683-11	METAL CHIP	22K 0.50% 1/10W
R6191	1-215-925-11	METAL OXIDE	22K 5% 3W F	R6272	1-216-683-11	METAL CHIP	22K 5% 1/10W
R6192	1-216-081-00	RES,CHIP	22K 5% 1/10W			(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R6273	1-216-081-00	RES,CHIP	22K 5% 1/10W
	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R6276	1-216-689-11	METAL CHIP	39K 0.50% 1/10W
		(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		R6277	1-216-686-11	METAL CHIP	30K 0.50% 1/10W
R6194	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R6278	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6195	1-216-093-00	RES,CHIP	68K 5% 1/10W	R6279	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R6280	1-249-377-11	CARBON	0.47 5% 1/4W F
	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R6281	1-249-377-11	CARBON	0.47 5% 1/4W F
		(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		R6282	1-215-886-11	METAL OXIDE	100 5% 2W F
R6196	1-249-377-11	CARBON	0.47 5% 1/4W F	R6283	1-216-393-00	METAL OXIDE	2.2 5% 3W F
R6198	1-216-075-00	RES,CHIP	12K 5% 1/10W	R6284	1-216-113-00	RES,CHIP	470K 5% 1/10W
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R6285	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
	1-216-081-00	RES,CHIP	22K 5% 1/10W	R6286	1-216-073-00	RES,CHIP	10K 5% 1/10W
		(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		R6287	1-216-073-00	RES,CHIP	10K 5% 1/10W
R6199	1-216-081-00	RES,CHIP	22K 5% 1/10W	R6313	1-216-295-91	SHORT	0
R6205	1-216-025-91	RES,CHIP	100 5% 1/10W	R6322	1-216-049-91	RES,CHIP	1K 5% 1/10W
R6206	1-216-105-91	RES,CHIP	220K 5% 1/10W	R6323	1-216-049-91	RES,CHIP	1K 5% 1/10W
R6208	1-216-089-91	RES,CHIP	47K 5% 1/10W	R6324	1-216-025-91	RES,CHIP	100 5% 1/10W
R6209	1-216-295-91	SHORT	0	R6325	1-216-025-91	RES,CHIP	100 5% 1/10W
				R6350	1-216-089-91	RES,CHIP	47K 5% 1/10W
				R6351	1-218-762-11	METAL CHIP	270K 0.50% 1/10W
				R6353	1-216-671-11	METAL CHIP	6.8K 0.50% 1/10W
				R6355	1-218-774-11	METAL CHIP	820K 0.50% 1/10W
				R6356	1-216-675-11	METAL CHIP	10K 0.50% 1/10W
				R6357	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
				R6358	1-216-047-91	RES,CHIP	820 5% 1/10W

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The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

REF.NO.	PART.NO	DESCRIPTION	REMARK
R6359	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R6360	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R6361	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R6362	1-216-687-11	METAL CHIP 33K 0.50% 1/10W	
R6363	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R6364	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R6365	1-216-033-00	RES,CHIP 220 5% 1/10W	
R6366	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R6367	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R6368	1-218-760-11	METAL CHIP 220K 0.50% 1/10W	
R6369	1-218-762-11	METAL CHIP 270K 0.50% 1/10W	
R6370	1-216-675-11	METAL CHIP 10K (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U) 1-216-677-11 METAL CHIP 12K 0.50% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6371	1-216-474-11	METAL OXIDE 82 5% 3W F	
R6372	1-216-033-00	RES,CHIP 220 5% 1/10W	
R6373	1-216-681-11	METAL CHIP 18K 0.50% 1/10W	
R6374	1-216-689-11	METAL CHIP 39K 0.50% 1/10W	
R6375	1-216-041-00	RES,CHIP 470 5% 1/10W	
R6377	1-216-689-11	METAL CHIP 39K 0.50% 1/10W	
R6378	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R6379	1-216-295-91	SHORT 0	
R6380	1-218-754-11	METAL CHIP 120K 0.50% 1/10W	
R6381	1-216-045-00	RES,CHIP 680 5% 1/10W	
R6382	1-218-754-11	METAL CHIP 120K 0.50% 1/10W	
R6383	1-216-687-11	METAL CHIP 33K 0.50% 1/10W	
R6384	1-216-043-91	RES,CHIP 560 5% 1/10W	
R6385	1-216-295-91	SHORT 0	
R6386	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R6387	1-216-677-11	METAL CHIP 12K 0.50% 1/10W	
R6391	1-249-417-11	CARBON 1K 5% 1/4W	
R6394	1-216-069-00	RES,CHIP 6.8K 5% 1/10W	
R6395	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R6397	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R6398	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R6399	1-218-756-11	METAL CHIP 150K 0.50% 1/10W	
R6400	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R6401	1-216-295-91	SHORT 0	
R6402	1-216-295-91	SHORT 0	
R6403	1-216-661-11	METAL CHIP 2.7K 0.50% 1/10W	
R6404	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R6405	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R6409	1-216-025-91	RES,CHIP 100 5% 1/10W	
R6410	1-216-073-00	RES,CHIP 10K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6411	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R6412	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R6413	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	

REF.NO.	PART.NO	DESCRIPTION	REMARK
R6414	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R6415	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R6416	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R6418	1-216-093-00	RES,CHIP 68K 5% 1/10W	
R6419	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R6420	1-216-091-00	RES,CHIP 56K 5% 1/10W	
R6421	1-216-637-11	METAL CHIP 270 0.50% 1/10W	
R6422	1-216-639-11	METAL CHIP 330 0.50% 1/10W	
R6423	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
R6426	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R6427	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R6428	1-216-101-00	RES,CHIP 150K 5% 1/10W	
R6429	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R6430	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R6431	1-216-113-00	RES,CHIP 470K 5% 1/10W	
R6432	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R6433	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R6437	1-249-422-11	CARBON 2.7K 5% 1/4W	
R6438	1-249-421-11	CARBON 2.2K 5% 1/4W	
R6439	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R6440	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R6441	1-216-673-11	METAL CHIP 8.2K 0.50% 1/10W	
R6442	1-216-039-00	RES,CHIP 390 5% 1/10W	
R6455	1-216-295-91	SHORT 0	
R6456	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R6457	1-216-075-00	RES,CHIP 12K 5% 1/10W	
R6458	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R6459	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R6460	1-249-393-11	CARBON 10 5% 1/4W	
R6461	1-249-411-11	CARBON 330 5% 1/4W	
R6462	1-249-406-11	CARBON 120 5% 1/4W	
R6463	1-216-095-00	RES,CHIP 82K 5% 1/10W	
R6464	1-216-079-00	RES,CHIP 18K 5% 1/10W	

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\*A-1640-328-A D BOARD, COMPLETE (KV-28FX60)

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\*A-1640-323-A D BOARD, COMPLETE (KV-32FX60)

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4-201-023-01 SPACER, INSULATING

4-202-373-01 SPRING,IC

4-382-854-11 SCREW (M3X10), P, SW (+)

\*4-931-401-01 HEAT SINK, V.OUT

< CAPACITOR >

C6600	$\Delta$ 1-162-580-51	CERAMIC	0.01MF	400V
C6603	1-126-933-11	ELECT	100MF	20% 16V
C6604	1-126-767-11	ELECT	1000MF	20% 16V
C6605	$\Delta$ 1-119-888-51	CERAMIC	2200PF	20% 250V
C6606	$\Delta$ 1-119-888-51	CERAMIC	2200PF	20% 250V
C6607	$\Delta$ 1-107-565-11	FILM	0.33MF	20% 300V

The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

D

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C6608	$\Delta$ 1-161-964-91	CERAMIC	0.0047MF 250V	C6672	1-104-664-11	ELECT	47MF 20% 16V
C6609	$\Delta$ 1-161-964-91	CERAMIC	0.0047MF 250V	C6673	1-104-664-11	ELECT	47MF 20% 16V
C6610	1-162-599-12	CERAMIC	0.0047MF 250V	C6677	1-136-165-00	FILM	0.1MF 5% 50V
C6611	1-162-599-12	CERAMIC	0.0047MF 250V	C6679	1-130-495-00	FILM	0.1MF 5% 50V
C6612	1-161-744-00	CERAMIC	0.01MF 400V	C6680	1-137-370-11	FILM	0.01MF 5% 50V
C6616	1-164-625-11	CERAMIC	680PF 10% 500V	C6681	1-126-964-11	ELECT	10MF 20% 50V
C6617	1-164-625-11	CERAMIC	680PF 10% 500V	C6700	1-102-129-00	CERAMIC	0.01MF 10% 50V
C6618	1-136-175-00	FILM	0.68MF 5% 50V	C6703	1-128-527-11	ELECT	330MF 20% 25V
C6619	1-137-194-91	FILM	0.47MF 5% 50V	C6704	1-126-968-11	ELECT	100MF 20% 50V
C6620	1-136-618-11	FILM	0.047MF 5% 1.25KV	C6705	1-128-527-11	ELECT	330MF 20% 25V
C6621	1-136-175-00	FILM	0.68MF 5% 50V	C6706	1-106-228-00	MYLAR	0.22MF 10% 100V
C6622	1-164-625-11	CERAMIC	680PF 10% 500V	C6707	1-129-702-00	FILM	0.001MF 10% 400V
C6623	1-137-194-91	FILM	0.47MF 5% 50V	C6708	1-106-220-00	MYLAR	0.1MF 10% 100V
C6624	1-126-968-11	ELECT	100MF 20% 50V	C6709	1-102-129-00	CERAMIC	0.01MF 10% 50V
C6626	1-164-625-11	CERAMIC	680PF 10% 500V	C6710	1-130-785-11	MYLAR	0.47MF 10% 100V
C6627	1-164-625-11	CERAMIC	680PF 10% 500V	C6727	1-102-228-00	CERAMIC	470PF 10% 500V
C6628	1-126-936-11	ELECT	3300MF 20% 16V	C6801	1-104-664-11	ELECT	47MF 20% 25V
C6629	1-128-548-11	ELECT	4700MF 20% 25V	C6802	1-126-960-11	ELECT	1MF 20% 50V
C6630	1-110-626-11	ELECT	330MF 20% 160V	C6803	1-126-960-11	ELECT	1MF 20% 50V
C6631	1-128-548-11	ELECT	4700MF 20% 25V	C6804	1-102-114-00	CERAMIC	470PF 10% 50V
C6632	1-128-548-11	ELECT	4700MF 20% 25V	C6805	1-102-114-00	CERAMIC	470PF 10% 50V
C6633	1-126-935-11	ELECT	470MF 20% 16V	C6808	1-102-030-00	CERAMIC	330PF 10% 500V
C6634	1-136-165-00	FILM	0.1MF 5% 50V	C6809	1-102-030-00	CERAMIC	330PF 10% 500V
C6635	1-104-664-11	ELECT	47MF 20% 25V	C6810	1-107-368-11	FILM	0.047MF 10% 200V
C6636	1-102-129-00	CERAMIC	0.01MF 10% 50V	C6811	1-107-368-11	FILM	0.047MF 10% 200V
C6637	1-102-129-00	CERAMIC	0.01MF 10% 50V	C6812	1-162-131-11	CERAMIC	220PF 10% 2KV
C6638	1-137-368-11	FILM	0.0047MF 5% 50V	C6813	1-162-134-11	CERAMIC	470PF 10% 2KV
C6639	1-102-228-00	CERAMIC	470PF 10% 500V	C6814	1-117-641-11	FILM	7500PF 3% 1.2KV
C6641	1-126-967-11	ELECT	47MF 20% 50V			(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
C6642	1-126-964-11	ELECT	10MF 20% 50V	1-117-640-11	FILM	6800PF 3% 1.2KV	
C6647	1-104-664-11	ELECT	47MF 20% 25V			(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
C6649	1-126-965-11	ELECT	22MF 20% 50V	C6815	1-117-836-11	FILM	6800PF 3% 2KV
C6651	1-162-599-12	CERAMIC	0.0047MF 250V			(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
C6652	1-107-679-91	ELECT	10MF 20% 450V	1-117-835-11	FILM	6200PF 3% 2KV	
C6653	1-126-968-11	ELECT	100MF 20% 50V			(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
C6654	1-162-117-00	CERAMIC	100PF 10% 500V	C6816	1-137-364-00	FILM	0.001MF 5% 50V
C6655	1-109-879-11	CERAMIC	22PF 5% 2KV	C6817	1-125-893-11	FILM	680PF 3% 2KV
C6656	1-126-967-11	ELECT	47MF 20% 50V	C6818	1-125-893-11	FILM	680PF 3% 2KV
C6657	1-126-941-11	ELECT	470MF 20% 25V	C6819	1-125-893-11	FILM	680PF 3% 2KV
C6658	1-104-665-11	ELECT	100MF 20% 25V	C6820	1-125-893-11	FILM	680PF 3% 2KV
C6659	1-104-665-11	ELECT	100MF 20% 25V	C6824	1-107-846-11	FILM	0.1MF 5% 200V
C6661	1-117-753-11	ELECT (BLOCK)	470MF 20% 450V	C6825	1-117-662-11	FILM	0.18MF 5% 200V
C6662	1-136-165-00	FILM	0.1MF 5% 50V	C6826	1-117-666-71	FILM	0.39MF 5% 250V
C6664	1-136-153-00	FILM	0.01MF 5% 50V			(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
C6665	1-136-165-00	FILM	0.1MF 5% 50V	1-117-665-11	FILM	0.33MF 5% 200V	
C6666	1-136-165-00	FILM	0.1MF 5% 50V			(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
C6667	1-126-933-11	ELECT	100MF 20% 16V				
C6668	1-126-933-11	ELECT	100MF 20% 16V				
C6669	1-136-165-00	FILM	0.1MF 5% 50V				
C6670	1-136-165-00	FILM	0.1MF 5% 50V				
C6671	1-104-664-11	ELECT	47MF 20% 16V				

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REF.NO.	PART.NO	DESCRIPTION	REMARK
C6827	1-117-660-21	FILM 0.12MF	5% 200V
C6828	1-127-681-91	CERAMIC 10000PF	2% 100V
C6829	1-127-681-91	CERAMIC 10000PF	2% 100V
C6830	1-107-655-11	ELECT 47MF	20% 250V
C6831	1-102-228-00	CERAMIC 470PF	10% 500V

C6832	1-126-941-11	ELECT 470MF	20% 25V
C6833	1-126-941-11	ELECT 470MF	20% 25V
C6834	1-102-228-00	CERAMIC 470PF	10% 500V
C6835	1-102-228-00	CERAMIC 470PF	10% 500V
C6836	1-123-024-21	ELECT 33MF	160V

C6837	1-106-375-12	MYLAR 0.022MF	10% 250V
C6840	1-137-370-11	FILM 0.01MF	5% 50V
C6841	1-104-664-11	ELECT 47MF	20% 16V
C6842	1-136-207-11	FILM 0.047MF	10% 400V
C6843	1-136-177-00	FILM 1MF	5% 50V

C6851	1-162-131-11	CERAMIC 220PF	10% 2KV
C6852	1-162-129-00	CERAMIC 150PF	10% 2KV
C6853	1-137-536-11	FILM 0.0022MF	5% 630V
C6855	1-136-205-11	FILM 0.022MF	10% 400V
C6856	1-102-030-00	CERAMIC 330PF	10% 500V

C6857	1-130-785-11	FILM 0.47MF	10% 100V
C6861	1-137-364-11	FILM 0.001MF	5% 50V
C6862	1-137-364-11	FILM 0.001MF	5% 50V
C6863	1-162-134-11	CERAMIC 470PF	10% 2KV

## &lt; CONNECTOR &gt;

CN6100	1-785-805-11	JACK, I.LINK	
CN6101	1-785-805-11	JACK, I.LINK	
CN6102	1-785-805-11	JACK, I.LINK	
CN6500	1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P	
CN6600	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P	

CN6611	*1-580-798-11	CONNECTOR, PIN (DY) 6P	
CN6620 $\Delta$	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CN6655	1-695-915-11	TAB (CONTACT)	
CN6666 $\Delta$	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN6677	1-695-915-11	TAB (CONTACT)	

CN6688	1-695-915-11	TAB (CONTACT)	
CN6700 $\Delta$	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	

## &lt; DIODE &gt;

D6600	8-719-911-19	DIODE 1SS119-25	
D6601	8-719-510-64	DIODE S2LA20F	
D6602	8-719-109-89	DIODE RD5.6ESB2	
D6603	8-719-911-19	DIODE 1SS119-25	
D6604	8-719-510-53	DIODE D4SB60L	

D6610	8-719-510-64	DIODE S2LA20F	
D6613	8-719-911-19	DIODE 1SS119-25	
D6615	8-719-911-19	DIODE 1SS119-25	
D6616	8-719-510-12	DIODE D10SC4M	
D6617	8-719-500-71	DIODE D8LC40	

D6618	8-719-047-31	DIODE RBA-402L	
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REF.NO.	PART.NO	DESCRIPTION	REMARK
D6619	8-719-510-12	DIODE D10SC4M	
D6620	8-719-510-09	DIODE D10SC6M	
D6621	8-719-991-33	DIODE 1SS133T-77	
D6622	8-719-991-33	DIODE 1SS133T-77	
D6623	8-719-911-19	DIODE 1SS119-25	

D6624	8-719-991-33	DIODE 1SS133T-77	
D6625	8-719-991-33	DIODE 1SS133T-77	
D6627	8-719-982-27	DIODE MTZJ-33C	
D6628	8-719-109-97	DIODE RD6.8ESB2	
D6629	8-719-991-33	DIODE 1SS133T-77	

D6630	8-719-991-33	DIODE 1SS133T-77	
D6651	8-719-068-00	DIODE ERC04-06SE	
D6652	8-719-923-78	DIODE MTZJ-T-77-12	
D6653	8-719-510-64	DIODE S2LA20F	
D6654	8-719-059-23	DIODE P6KE200AG23	

D6655	8-719-979-64	DIODE UF4005PKG23	
D6656	8-719-510-64	DIODE S2LA20F	
D6658	8-719-068-00	DIODE ERC04-06SE	
D6659	8-719-510-64	DIODE S2LA20F	
D6676	8-719-991-33	DIODE 1SS133T-77	

D6677	8-719-921-40	DIODE MTZJ-4.7C	
D6678	8-719-921-40	DIODE MTZJ-4.7C	
D6679	8-719-991-33	DIODE 1SS133T-77	
D6700	8-719-908-03	DIODE GP08D	
D6701	8-719-110-41	DIODE RD15ESB2	

D6803	8-719-908-03	DIODE GP08D	
D6805	8-719-302-43	DIODE EL1Z	
D6806	8-719-979-85	DIODE EGP20G	
D6807	8-719-510-73	DIODE S3L20UF4	
D6808	8-719-510-73	DIODE S3L20UF4	

D6809	8-719-991-33	DIODE 1SS133T-77	
D6810	8-719-923-86	DIODE MTZJ-T-77-15	
D6811	8-719-923-86	DIODE MTZJ-T-77-15	
D6812	8-719-991-33	DIODE 1SS133T-77	
D6813	8-719-923-86	DIODE MTZJ-T-77-15	

D6851	8-719-970-87	DIODE ERA38-06	
D6852	8-719-970-87	DIODE ERA38-06	

## &lt; FERRITE BEAD &gt;

FB6600	1-535-303-00	LEAD, JUMPER (5.0MM)	
FB6601	1-535-303-00	LEAD, JUMPER (5.0MM)	
FB6602	1-410-396-41	FERRITE 0.45UH	
FB6603	1-410-396-41	FERRITE 0.45UH	

## &lt; IC &gt;

IC6600	1-810-051-11	POWER MODULE DM-48	
IC6604	8-729-045-40	TRANSISTOR MX0842A-F	
IC6651	8-759-468-89	IC TOP209P	
IC6652	8-759-604-39	IC M5F78M12L	
IC6653	8-759-544-13	IC KA78R09TU	
IC6654	8-759-457-44	IC KA78R05TU	

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REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
IC6667	8-759-908-15	IC TL431CLP		Q6667	8-729-026-41	TRANSISTOR 2SA933AS-QRT	
IC6676	8-759-908-15	IC TL431CLP		Q6676	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC6700	8-759-192-71	IC STV9379		Q6677	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC6801	8-759-103-93	IC UPC393C		Q6678	8-729-119-78	TRANSISTOR 2SC2785-HFE	
< COIL >				Q6679	8-729-026-41	TRANSISTOR 2SA933AS-QRT	
L6601	1-535-303-00	LEAD, JUMPER (5.0MM)		Q6680	8-729-029-66	TRANSISTOR DTC114ESA	
L6602	1-412-529-11	INDUCTOR 22UH		Q6681	8-729-029-66	TRANSISTOR DTC114ESA	
L6603	1-412-529-11	INDUCTOR 22UH		Q6700	8-729-039-68	TRANSISTOR IRF620	
L6604	1-412-525-31	INDUCTOR 10UH		Q6801	8-729-119-80	TRANSISTOR 2SC2688-LK	
L6605	1-412-525-31	INDUCTOR 10UH		Q6802	8-729-119-80	TRANSISTOR 2SC2688-LK	
L6606	1-412-525-31	INDUCTOR 10UH		Q6803	8-729-046-18	TRANSISTOR 2SC5480-01	
L6607	1-412-525-31	INDUCTOR 10UH		Q6804	8-729-046-18	TRANSISTOR 2SC5480-01	
L6651	1-414-183-41	INDUCTOR 10UH		Q6805	8-729-038-83	TRANSISTOR 2SK2251-01-F19	
L6700	1-412-524-41	INDUCTOR 8.2UH		Q6806	8-729-930-91	TRANSISTOR IRF740	
L6801	1-412-519-11	INDUCTOR 3.3UH		Q6807	8-729-030-02	TRANSISTOR DTC144ESA	
L6802	1-412-519-11	INDUCTOR 3.3UH		Q6809	8-729-119-78	TRANSISTOR 2SC2785-HFE	
L6803	1-412-519-11	INDUCTOR 3.3UH		Q6810	8-729-026-41	TRANSISTOR 2SA933AS-QRT	
L6805	1-408-947-00	INDUCTOR 2.2MMH		Q6851	8-729-043-95	TRANSISTOR 2SC3840(3)	
L6806	1-410-397-21	FERRITE 1.1UH		< RESISTOR >			
L6807	1-410-397-21	FERRITE 1.1UH		R6601	$\Delta$ 1-202-968-11	CEMENTED 1.2 5% 10W	
L6808	1-406-675-11	INDUCTOR 0UH		R6603	1-249-430-11	CARBON 12K 5% 1/4W	
L6851	1-535-303-00	LEAD, JUMPER (5.0MM)		R6604	1-249-421-11	CARBON 2.2K 5% 1/4W	
< FILTER >				R6605	1-249-417-11	CARBON 1K 5% 1/4W F	
LF6603	1-406-656-21	INDUCTOR 0UH		R6606	$\Delta$ 1-202-968-11	CEMENTED 1.2 5% 10W	
LF6604	1-406-656-21	INDUCTOR 0UH		R6607	$\Delta$ 1-202-968-11	CEMENTED 1.2 5% 10W	
LF6801	1-406-985-11	INDUCTOR 0UH		R6608	$\Delta$ 1-202-968-11	CEMENTED 1.2 5% 10W	
LF6851	1-406-674-11	INDUCTOR 0UH		R6611	1-260-125-11	CARBON 150K 5% 1/2W	
< IC LINK >				R6612	1-260-125-11	CARBON 150K 5% 1/2W	
PS6601	$\Delta$ 1-801-550-21	PROTECTOR MODULE 2.5A MP250		R6613	1-216-369-00	METAL OXIDE 1 5% 2W F	
PS6602	$\Delta$ 1-801-550-21	PROTECTOR MODULE 2.5A MP250		R6614	1-260-125-11	CARBON 150K 5% 1/2W	
PS6603	$\Delta$ 1-801-550-21	PROTECTOR MODULE 2.5A MP250 (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R6615	1-260-125-11	CARBON 150K 5% 1/2W	
	$\Delta$ 1-801-549-21	PROTECTOR MODULE 4.0A MP400 (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		R6616	1-216-369-00	METAL OXIDE 1 5% 2W F	
PS6604	$\Delta$ 1-801-550-21	PROTECTOR MODULE 2.5A MP250		R6619	1-249-425-11	CARBON 4.7K 5% 1/4W	
PS6605	$\Delta$ 1-801-550-21	PROTECTOR MODULE 2.5A MP250		R6620	1-249-443-11	CARBON 0.47 5% 1/4W F	
< TRANSISTOR >				R6624	1-249-425-11	CARBON 4.7K 5% 1/4W	
Q6600	8-729-046-47	TRANSISTOR KSC2500-BTA		R6625	1-249-429-11	CARBON 10K 5% 1/4W	
Q6602	8-729-026-41	TRANSISTOR 2SA933AS-QRT		R6626	1-247-807-31	CARBON 100 5% 1/4W	
Q6603	8-729-119-78	TRANSISTOR 2SC2785-HFE		R6627	1-249-429-11	CARBON 10K 5% 1/4W	
Q6605	8-729-046-47	TRANSISTOR KSC2500-BTA		R6628	1-260-129-11	CARBON 330K 5% 1/2W	
Q6606	8-729-029-56	TRANSISTOR DTA144ESA		R6629	1-260-129-11	CARBON 330K 5% 1/2W	
Q6607	8-729-119-78	TRANSISTOR 2SC2785-HFE		R6630	1-249-417-11	CARBON 1K 5% 1/4W	
Q6608	8-729-029-66	TRANSISTOR DTC114ESA		R6631	1-249-425-11	CARBON 4.7K 5% 1/4W	
Q6651	8-729-026-41	TRANSISTOR 2SA933AS-QRT		R6632	1-207-905-00	WIREWOUND 0.27 10% 2W F	
Q6652	8-729-029-86	TRANSISTOR DTC124ESA		R6633	1-249-429-11	CARBON 10K 5% 1/4W	
				R6635	1-535-303-00	LEAD, JUMPER (5.0MM)	
				R6637	1-249-421-11	CARBON 2.2K 5% 1/4W	
				R6638	1-247-895-91	CARBON 470K 5% 1/4W	
				R6639	1-249-416-11	CARBON 820 5% 1/4W	
				R6640	1-249-417-11	CARBON 1K 5% 1/4W	
				R6641	1-260-127-11	CARBON 220K 5% 1/2W	

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REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R6642	1-249-389-11	CARBON	4.7 5% 1/4W F	R6802	1-214-915-00	METAL	120K 1% 1/2W
R6643	1-249-417-11	CARBON	1K 5% 1/4W F	R6803	1-249-421-11	CARBON	2.2K 5% 1/4W
R6644	1-249-429-11	CARBON	10K 5% 1/4W	R6804	1-247-807-31	CARBON	100 5% 1/4W
R6645	1-260-131-11	CARBON	470K 5% 1/2W	R6805	1-247-807-31	CARBON	100 5% 1/4W
R6646	1-249-429-11	CARBON	10K 5% 1/4W	R6806	1-249-411-11	CARBON	330 5% 1/4W
R6647	1-249-410-11	CARBON	270 5% 1/4W	R6807	1-249-411-11	CARBON	330 5% 1/4W
R6648	1-247-863-91	CARBON	22K 5% 1/4W	R6808	1-260-340-11	CARBON	10K 5% 1/2W
R6649	1-215-926-00	METAL OXIDE	33K 5% 3W F	R6809	1-260-340-11	CARBON	10K 5% 1/2W
R6651	1-247-791-91	CARBON	22 5% 1/4W	R6810	1-215-895-11	METAL OXIDE	3.3K 5% 3W F
R6652	1-249-389-11	CARBON	4.7 5% 1/4W F			(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6653	1-249-421-11	CARBON	2.2K 5% 1/4W		1-216-460-11	METAL OXIDE	3.9K 5% 3W F
R6655	1-249-429-11	CARBON	10K 5% 1/4W			(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6656 $\Delta$	1-218-265-11	METAL	8.2M 5% 1W				
R6657	1-215-424-00	METAL	1.3K 1% 1/4W	R6811	1-216-461-00	METAL OXIDE	5.6K 5% 2W F
R6666	1-202-933-61	FUSIBLE	0.1 10% 1/2W F	R6812	1-215-895-11	METAL OXIDE	3.3K 5% 2W F
R6667	1-215-441-00	METAL	6.8K 1% 1/4W	R6813	1-215-895-11	METAL OXIDE	3.3K 5% 2W F
R6668	1-249-429-11	CARBON	10K 5% 1/4W	R6814	1-215-880-00	METAL OXIDE	10 5% 2W F
R6669	1-249-413-11	CARBON	470 5% 1/4W	R6815	1-215-880-00	METAL OXIDE	10 5% 2W F
R6670	1-249-417-11	CARBON	1K 5% 1/4W	R6816	1-216-361-00	METAL OXIDE	0.22 5% 2W F
R6676	1-249-417-11	CARBON	1K 5% 1/4W	R6817	1-216-361-00	METAL OXIDE	0.22 5% 2W F
R6677	1-249-417-11	CARBON	1K 5% 1/4W	R6818	1-247-807-31	CARBON	100 5% 1/4W
R6678	1-249-417-11	CARBON	1K 5% 1/4W	R6819	1-247-807-31	CARBON	100 5% 1/4W
R6679	1-215-479-00	METAL	270K 1% 1/4W	R6831	1-260-124-11	CARBON	120K 5% 1/2W
R6681	1-215-467-00	METAL	82K 1% 1/4W	R6832	1-216-434-11	METAL OXIDE	1.8K 5% 1W F
R6682	1-215-447-00	METAL	12K 1% 1/4W	R6833	1-202-972-61	FUSIBLE	1 5% 1/4W F
R6683	1-215-429-00	METAL	2.2K 1% 1/4W	R6834	1-249-377-11	CARBON	0.47 5% 1/4W F
R6684	1-247-807-31	CARBON	100 5% 1/4W	R6835	1-249-377-11	CARBON	0.47 5% 1/4W F
R6685	1-249-417-11	CARBON	1K 5% 1/4W	R6836	1-249-431-11	CARBON	15K
R6686	1-215-449-00	METAL	15K 1% 1/4W			(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6687	1-249-431-11	CARBON	15K 5% 1/4W		1-249-429-11	CARBON	10K 5% 1/4W
R6688	1-249-417-11	CARBON	1K 5% 1/4W			(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6700	1-215-441-00	METAL	6.8K 1% 1/4W	R6837	1-215-894-11	METAL OXIDE	2.2K 5% 2W F
R6701	1-215-439-00	METAL	5.6K 1% 1/4W	R6838	1-260-119-11	CARBON	47K 5% 1/2W
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R6839	1-215-894-11	METAL OXIDE	2.2K 5% 2W F
	1-215-437-00	METAL	4.7K 1% 1/4W	R6840	1-247-843-11	CARBON	3.3K 5% 1/4W
		(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		R6842	1-260-123-11	CARBON	100K 5% 1/2W
R6702	1-215-441-00	METAL	6.8K 1% 1/4W	R6843	1-249-429-11	CARBON	10K 5% 1/4W
R6703	1-215-439-00	METAL	5.6K 1% 1/4W	R6844	1-249-441-11	CARBON	100K 5% 1/4W
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R6845	1-247-863-91	CARBON	22K 5% 1/4W
	1-215-437-00	METAL	4.7K 1% 1/4W	R6851	1-260-123-11	CARBON	100K 5% 1/4W
		(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)				(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6704	1-249-383-11	CARBON	1.5 5% 1/4W F		1-260-127-11	CARBON	220K 5% 1/2W
R6705	1-247-791-91	CARBON	22 5% 1/4W			(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6707	1-215-888-00	METAL OXIDE	220 5% 2W F	R6852	1-260-123-11	CARBON	100K 5% 1/4W
R6708	1-214-798-21	METAL	1.8 1% 1/2W			(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R6709	1-214-798-21	METAL	1.8 1% 1/2W		1-260-127-11	CARBON	220K 5% 1/2W
R6710	1-247-843-11	CARBON	3.3K 5% 1/4W			(KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R6801	1-215-440-00	METAL	6.2K 1% 1/4W				



The components identified by shading and marked **△** are critical for safety  
Replace only with the part number specified.

**D**

**E**

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R6853	1-260-123-11	CARBON 100K 5% 1/4W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		T6801	1-433-489-11	TRANSFORMER, FERRITE (HDT)	
	1-260-127-11	CARBON 220K 5% 1/2W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		T6802	1-433-489-11	TRANSFORMER, FERRITE (HDT)	
R6854	1-247-831-91	CARBON 1K 5% 1/4W		<b>T6804 △</b>	<b>1-453-272-11</b>	<b>TRANSFORMER, ASSY, FLYBACK (NX-4512/U2B4)</b>	
R6856	1-216-486-00	METAL OXIDE 8.2K 5% 3W F (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		T6805	1-429-741-11	TRANSFORMER, DRIVE	
	1-215-922-11	METAL OXIDE 6.8K 5% 3W F (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		T6852	1-426-896-11	TRANSFORMER, FERRITE (DFT)	
R6857	1-216-486-00	METAL OXIDE 8.2K 5% 3W F (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		< THERMISTOR >			
	1-215-922-11	METAL OXIDE 6.8K 5% 3W F (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		<b>TH6600 △</b>	<b>1-809-827-11</b>	<b>THERMISTOR, POSITIVE</b>	
R6858	1-216-486-00	METAL OXIDE 8.2K 5% 3W F (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		TH6700	1-800-193-00	THERMISTOR	
	1-215-922-11	METAL OXIDE 6.8K 5% 3W F (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		*****			
R6859	1-216-486-00	METAL OXIDE 8.2K 5% 3W F (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		*A-1640-341-A	E BOARD, COMPLETE (KV-28FX60)		
	1-215-922-11	METAL OXIDE 6.8K 5% 3W F (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)			*****		
R6880	1-215-436-00	METAL 4.3K 1% 1/4W		*A-1640-337-A	E BOARD, COMPLETE (KV-32FX60)		
R6885	1-215-493-00	METAL 1M 1% 1/4W			*****		
R6886	1-215-477-00	METAL 220K 1% 1/4W		< CAPACITOR >			
R6887	1-215-461-00	METAL 47K 1% 1/4W		C4316	1-104-664-11	ELECT 47MF 20% 25V	
R6888	1-249-441-11	CARBON 100K 5% 1/4W		C4317	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
R6889	1-249-421-11	CARBON 2.2K 5% 1/4W		C4318	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
R6890	1-247-887-00	CARBON 220K 5% 1/4W		C4319	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
R6891	1-247-895-91	CARBON 470K 5% 1/4W		C4320	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
R6892	1-249-437-11	CARBON 47K 5% 1/4W		C4321	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
R6893	1-249-429-11	CARBON 10K 5% 1/4W		C4322	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
R6895	1-249-443-11	CARBON 0.47 5% 1/4W F		C4324	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
R6896	1-249-443-11	CARBON 0.47 5% 1/4W F		C4325	1-163-093-00	CERAMIC CHIP 10PF 5% 50V (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
< RELAY >				C4329	1-126-963-11	ELECT 4.7MF 20% 50V	
<b>RY6601 △</b>	<b>1-755-167-11</b>	<b>RELAY, AC POWER</b>		C4330	1-136-165-00	FILM 0.1MF 5% 50V	
<b>RY6602 △</b>	<b>1-755-167-11</b>	<b>RELAY, AC POWER</b>		C4331	1-126-959-11	ELECT 0.47MF 20% 50V	
< TRANSFORMER >				C4332	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
<b>T6600 △</b>	<b>1-431-616-11</b>	<b>TRANSFORMER, CONVERTER</b>		C4333	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
<b>T6601 △</b>	<b>1-433-516-11</b>	<b>TRANSFORMER, CONVERTER</b>		C4334	1-126-967-11	ELECT 47MF 20% 50V	
<b>T6651</b>	<b>1-431-732-11</b>	<b>TRANSFORMER, CONVERTER (SRT)</b>		C4336	1-126-967-11	ELECT 47MF 20% 50V	
				C4338	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
				C4340	1-126-967-11	ELECT 47MF 20% 50V	
				C4342	1-163-021-91	CERAMIC CHIP 0.01MF 10% 50V	
				C4343	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
				C4344	1-163-809-11	CERAMIC CHIP 0.047MF 10% 25V	
				C4345	1-126-967-11	ELECT 47MF 20% 50V	
				C4346	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
				C4347	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
				C4348	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
				C4349	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
				C4350	1-164-004-11	ELECT 0.1MF 20% 50V (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
				1-126-963-11	ELECT 4.7MF 20% 50V (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		



REF. NO.	PART.NO	DESCRIPTION	REMARK
C4351	1-164-009-11	CERAMIC CHIP 0.001MF (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	10% 50V
	1-164-161-11	CERAMIC CHIP 0.0022MF (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	10% 50V
C4352	1-126-967-11	ELECT 47MF	20% 50V
C4353	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
C4354	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
C4355	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C4356	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C4357	1-164-004-11	CERAMIC CHIP 0.1MF (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	10% 25V
	1-163-009-11	CERAMIC CHIP 0.001MF (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	10% 25V
C4358	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C4359	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C4360	1-126-963-11	ELECT 4.7MF (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	20% 50V
	1-126-966-11	ELECT 33MF (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	20% 50V
C4361	1-126-967-11	ELECT 47MF (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	20% 50V
C4362	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C4363	1-126-967-11	ELECT 47MF	20% 50V
C4364	1-126-967-11	ELECT 47MF	20% 50V
C4366	1-163-021-91	CERAMIC CHIP 0.01MF (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	10% 50V
C4367	1-104-760-11	CERAMIC CHIP 0.047MF (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	10% 50V
C4369	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C4370	1-126-967-11	ELECT 47MF	20% 50V
C4371	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C4377	1-126-960-11	ELECT 1MF	20% 50V
C4379	1-163-243-11	CERAMIC CHIP 47PF (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	5% 50V
C4380	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C4381	1-163-249-11	CERAMIC CHIP 82PF	5% 50V
C4518	1-162-638-11	CERAMIC CHIP 1MF	16V
< CONNECTOR >			
CN4101	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P	
CN4500	1-564-511-11	PLUG, CONNECTOR 8P	
CN4502	*1-568-878-51	PIN, CONNECTOR 3P	

REF.NO.	PART.NO	DESCRIPTION	REMARK
< DIODE >			
D4302	8-719-025-29	DIODE 02CZ5.1-TE85L (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
D4303	8-719-041-97	DIODE MA113-(TX) (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
D4304	8-719-923-60	DIODE MTZJ-T-77-9.1A	
D4305	8-719-923-60	DIODE MTZJ-T-77-9.1A	
D4311	8-719-914-43	DIODE DAN202K	
D4312	8-719-914-43	DIODE DAN202K	
D4313	8-719-401-63	DIODE MA3062M-TX	
< FERRITE BEAD >			
FB4387	1-414-234-22	INDUCTOR CHIP 00UH	
FB4388	1-414-234-22	INDUCTOR CHIP 00UH	
FB4389	1-414-234-22	INDUCTOR CHIP 00UH	
< IC >			
IC4301	8-752-086-23	IC CXA2100Q-TL	
< COIL >			
L4301	1-414-183-41	INDUCTOR 10UH	
L4302	1-414-183-41	INDUCTOR 10UH	
L4303	1-414-183-41	INDUCTOR 10UH	
L4304	1-414-183-41	INDUCTOR 10UH	
L4305	1-414-183-41	INDUCTOR 10UH	
L4306	1-414-183-41	INDUCTOR 10UH	
L4307	1-414-183-41	INDUCTOR 10UH (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
L4308	1-408-609-41	INDUCTOR 33UH	
L4309	1-408-609-41	INDUCTOR 33UH	
< TRANSISTOR >			
Q4304	8-729-216-22	TRANSISTOR 2SA1162-G	
Q4305	8-729-620-06	TRANSISTOR 2SA2412K-T-146-R (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
Q4306	8-729-620-06	TRANSISTOR 2SA2412K-T-146-R (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
Q4307	8-729-216-22	TRANSISTOR 2SA1162-G	
Q4308	8-729-216-22	TRANSISTOR 2SA1162-G	
Q4309	8-729-216-22	TRANSISTOR 2SA1162-G	
Q4310	8-729-216-22	TRANSISTOR 2SA1162-G	
Q4315	1-801-806-11	TRANSISTOR DTC144EKA-T146	

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
Q4316	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)		R4365	1-216-025-91	RES,CHIP 100 5% 1/10W	
	8-719-918-98	TRANSISTOR SLP253B (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)		R4366	1-216-025-91	RES,CHIP 100 5% 1/10W	
Q4317	8-729-900-53	TRANSISTOR DTC114EK		R4367	1-216-025-91	RES,CHIP 100 5% 1/10W	
Q4318	8-729-216-22	TRANSISTOR 2SA1162-G		R4368	1-215-097-91	RES,CHIP 100K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
< RESISTOR >				R4369	1-216-073-00	RES,CHIP 10K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R4301	1-216-025-91	RES,CHIP 100 5% 1/10W		R4370	1-216-077-00	RES,CHIP 15K 5% 1/10W	
R4302	1-216-025-91	RES,CHIP 100 5% 1/10W		R4371	1-216-069-00	RES,CHIP 6.8K 5% 1/10W	
R4303	1-216-025-91	RES,CHIP 100 5% 1/10W		R4372	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R4304	1-216-025-91	RES,CHIP 100 5% 1/10W		R4373	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R4305	1-216-025-91	RES,CHIP 100 5% 1/10W		R4374	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R4306	1-216-025-91	RES,CHIP 100 5% 1/10W		R4375	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R4313	1-216-065-91	RES,CHIP 4.7K 5% 1/10W		R4376	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R4314	1-216-057-00	RES,CHIP 2.2K 5% 1/10W		R4377	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R4331	1-216-073-00	RES,CHIP 10K 5% 1/10W		R4378	1-216-101-00	RES,CHIP 150K 5% 1/10W	
R4332	1-216-073-00	RES,CHIP 10K 5% 1/10W		R4380	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R4333	1-216-073-00	RES,CHIP 10K 5% 1/10W		R4381	1-216-127-11	RES,CHIP 1.8M 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R4334	1-216-025-91	RES,CHIP 100 5% 1/10W		R4382	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R4335	1-216-025-91	RES,CHIP 100 5% 1/10W		R4383	1-216-079-00	RES,CHIP 18K 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)	
R4336	1-216-025-91	RES,CHIP 100 5% 1/10W		R4384	1-216-025-91	RES,CHIP 100 5% 1/10W	
R4337	1-216-025-91	RES,CHIP 100 5% 1/10W		R4387	1-216-025-91	RES,CHIP 100 5% 1/10W	
R4339	1-216-049-91	RES,CHIP 1K 5% 1/10W		R4388	1-216-025-91	RES,CHIP 100 5% 1/10W	
R4340	1-216-111-00	RES,CHIP 390K 5% 1/10W		R4389	1-216-025-91	RES,CHIP 100 5% 1/10W	
R4341	1-216-295-91	SHORT 0		R4395	1-216-295-91	SHORT 0	
R4343	1-216-025-91	RES,CHIP 100 5% 1/10W		R4396	1-216-295-91	SHORT 0	
R4344	1-216-025-91	RES,CHIP 100 5% 1/10W		R4398	1-216-025-91	RES,CHIP 100 5% 1/10W	
R4345	1-216-677-11	METAL CHIP 12K 0.50% 1/10W		R4401	1-216-105-91	RES,CHIP 220K 5% 1/10W	
R4346	1-216-683-11	METAL CHIP 22K 0.50% 1/10W		R4402	1-216-129-00	RES,CHIP 2.2K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R4347	1-216-025-91	RES,CHIP 100 5% 1/10W		R4403	1-216-073-00	RES,CHIP 10K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R4348	1-216-025-91	RES,CHIP 100 5% 1/10W		R4404	1-216-073-00	RES,CHIP 10K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R4350	1-216-025-91	RES,CHIP 100 5% 1/10W		R4405	1-216-087-91	RES,CHIP 39K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R4354	1-216-675-11	METAL CHIP 10K 0.50% 1/10W		R4406	1-216-105-91	RES,CHIP 220K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R4358	1-216-071-00	RES,CHIP 8.2K 5% 1/10W		R4407	1-216-091-00	RES,CHIP 56K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)	
R4359	1-216-041-00	RES,CHIP 470 5% 1/10W		R4504	1-216-295-91	SHORT 0	
R4360	1-216-057-00	RES,CHIP 2.2K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)					
	1-216-061-00	RES,CHIP 3.3K 5% 1/10W (KV-32FX60A/32FX60B/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)					
R4361	1-216-133-00	RES,CHIP 3.3M 5% 1/10W					
R4362	1-216-049-91	RES,CHIP 1K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)					
R4363	1-216-025-91	RES,CHIP 100 5% 1/10W					
R4364	1-216-097-91	RES,CHIP 100K 5% 1/10W (KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U)					

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VM

REF.NO.	PART.NO	DESCRIPTION	REMARK
R4505	1-216-295-91	SHORT	0
R4506	1-216-295-91	SHORT	0
R4507	1-216-121-91	RES,CHIP	1M 5% 1/10W
R4518	1-216-025-91	RES,CHIP	100 5% 1/10W
R4519	1-216-025-91	RES,CHIP	100 5% 1/10W
R4520	1-216-295-91	SHORT	0
R4521	1-216-295-91	SHORT	0
R4522	1-216-295-91	SHORT	0
R4523	1-216-295-91	SHORT	0

&lt; CRYSTAL &gt;

X4300 1-767-127-11 VIBRATOR, CERAMIC

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\*A-1644-094-A VM BOARD, COMPLETE  
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4-382-854-11 SCREW (M3X10), P, SW (+)

&lt; CAPACITOR &gt;

C5400	1-107-883-11	ELECT	330MF	20%	16V
C5401	1-126-935-11	ELECT	470MF	20%	16V
C5402	1-137-370-11	FILM	0.01MF	5%	50V
C5403	1-126-935-11	ELECT	470MF	20%	6.3V
C5405	1-126-933-11	ELECT	100MF	20%	16V
C5406	1-126-935-11	ELECT	470MF	20%	6.3V
C5407	1-104-989-91	FILM	0.0022MF	5%	200V
C5408	1-104-989-91	FILM	0.0022MF	5%	200V
C5409	1-107-649-11	ELECT	2.2MF	20%	250V
C5410	1-137-364-11	FILM	0.001MF	5%	50V
C5411	1-137-364-11	FILM	0.001MF	5%	50V
C5412	1-126-933-11	ELECT	100MF	20%	16V
C5413	1-126-933-11	ELECT	100MF	20%	16V
C5414	1-107-638-11	ELECT	33MF	20%	160V
C5415	1-107-363-91	FILM	0.0068MF	10%	200V
C5416	1-102-106-00	CERAMIC	100PF	10%	50V
C5419	1-101-880-00	CERAMIC	47PF	5%	50V
C5430	1-162-117-00	CERAMIC	100PF	10%	500V

&lt; CONNECTOR &gt;

CN5402	*1-568-878-51	PIN, CONNECTOR 3P
CN5444	*1-770-723-11	CONNECTOR, BOARD TO BOARD 8P
CN5555	1-695-915-11	TAB (CONTACT)
CN5602	*1-568-881-51	PIN, CONNECTOR 6P

&lt; DIODE &gt;

D5400	8-719-991-33	DIODE 1SS133T-77
D5401	8-719-510-02	DIODE D1NS4
D5402	8-719-991-33	DIODE 1SS133T-77
D5403	8-719-991-33	DIODE 1SS133T-77
D5404	8-719-991-33	DIODE 1SS133T-77

REF.NO.	PART.NO	DESCRIPTION	REMARK
D5405	8-719-924-11	DIODE MTZJ-T-77-22	
D5406	8-719-924-11	DIODE MTZJ-T-77-22	

&lt; FERRITE BEAD &gt;

FB5400	1-410-397-21	FERRITE	1.1UH
FB5401	1-410-396-41	FERRITE	0.45UH

&lt; COIL &gt;

L5400	1-410-784-41	INDUCTOR	0.18UH
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&lt; TRANSISTOR &gt;

Q5400	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q5401	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q5402	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q5403	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q5404	8-729-026-41	TRANSISTOR 2SA933AS-QRT
Q5405	8-729-026-41	TRANSISTOR 2SA933AS-QRT
Q5406	8-729-017-05	TRANSISTOR 2SA1837
Q5407	8-729-017-06	TRANSISTOR 2SC4793

&lt; RESISTOR &gt;

R5400	1-249-401-11	CARBON	47	5%	1/4W
R5401	1-249-421-11	CARBON	2.2K	5%	1/4W
R5402	1-249-413-11	CARBON	470	5%	1/4W
R5403	1-249-393-11	CARBON	10	5%	1/4W F
R5404	1-249-417-11	CARBON	1K	5%	1/4W
R5405	1-249-425-11	CARBON	4.7K	5%	1/4W
R5406	1-249-425-11	CARBON	4.7K	5%	1/4W
R5407	1-249-399-11	CARBON	33	5%	1/4W
R5408	1-247-807-31	CARBON	100	5%	1/4W
R5409	1-247-815-91	CARBON	220	5%	1/4W
R5410	1-249-401-11	CARBON	47	5%	1/4W
R5411	1-249-401-11	CARBON	47	5%	1/4W
R5412	1-249-429-11	CARBON	10K	5%	1/4W
R5413	1-249-414-11	CARBON	560	5%	1/4W F
R5414	1-249-432-11	CARBON	18K	5%	1/4W
R5415	1-260-311-11	CARBON	39	5%	1/2W
R5416	1-249-383-11	CARBON	1.5	5%	1/4W F
R5417	1-249-432-11	CARBON	18K	5%	1/4W
R5418	1-249-414-11	CARBON	560	5%	1/4W
R5419	1-249-421-11	CARBON	2.2K	5%	1/4W
R5420	1-249-421-11	CARBON	2.2K	5%	1/4W
R5421	1-249-383-11	CARBON	1.5	5%	1/4W F
R5422	1-249-400-11	CARBON	39	5%	1/4W F
R5423	1-215-914-11	METAL OXIDE	330	5%	3W F
R5425	1-249-419-11	CARBON	1.5K	5%	1/4W

REF.NO.	PART.NO	DESCRIPTION	REMARK			REF.NO.	PART.NO	DESCRIPTION	REMARK				
	*A-1646-170-A	H1 BOARD, COMPLETE *****					*A-1651-100-A	J BOARD, COMPLETE (KV-28FX60A/28FX60B/ ***** 28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U/ 32FX60A/32FX60D/32FX60E/ 32FX60K/32FX60R/32FX60U)					
		< CAPACITOR >											
C7900	1-101-810-00	CERAMIC	100PF	5%	500V								
C7901	1-101-810-00	CERAMIC	100PF	5%	500V								
C7925	1-137-372-11	FILM	0.022MF	5%	50V								
C7926	1-137-372-11	FILM	0.022MF	5%	50V								
		< CONNECTOR >											
CN7103	*1-564-514-11	PLUG, CONNECTOR 11P											
		< JACK >											
J7900	1-779-947-11	TERMINAL BLOCK, S											
J7925	1-764-606-11	JACK											
		< COIL >											
L7925	1-414-183-41	INDUCTOR	10UH										
L7926	1-414-183-41	INDUCTOR	10UH										
		< RESISTOR >											
R7900	1-535-303-00	LEAD, JUMPER (5.0MM)											
R7901	1-249-417-11	CARBON	1K	5%	1/4W								
R7902	1-247-895-91	CARBON	470K	5%	1/4W								
R7903	1-247-895-91	CARBON	470K	5%	1/4W								
R7904	1-535-303-00	LEAD, JUMPER (5.0MM)											
R7905	1-249-417-11	CARBON	1K	5%	1/4W								
R7906	1-535-303-00	LEAD, JUMPER (5.0MM)											
*****													
	*A-1648-016-A	U BOARD, COMPLETE *****											
		< CAPACITOR >											
C7961	1-101-005-00	CERAMIC	0.022MF		50V								
C7962	1-101-005-00	CERAMIC	0.022MF		50V								
		< CONNECTOR >											
CN7101	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P											
CN7977	*1-564-519-11	PLUG, CONNECTOR 4P											
CN7988	*1-564-519-11	PLUG, CONNECTOR 4P											
CN7990	*1-564-518-11	PLUG, CONNECTOR 3P											
		< JACK >											
J7952	1-537-339-11	TERMINAL BOARD											
		< COIL >											
L7954	1-402-711-11	INDUCTOR	0UH										
L7956	1-402-711-11	INDUCTOR	0UH										
							</						



REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C8211	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C8322	1-126-933-11	ELECT 100MF	20% 16V
C8212	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C8323	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C8213	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V	C8324	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8214	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V	C8325	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8215	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C8326	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
C8216	1-126-933-11	ELECT 100MF	20% 16V	C8327	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8217	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8328	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8218	1-126-964-11	ELECT 10MF	20% 50V	C8329	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8219	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8330	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
C8220	1-126-964-11	ELECT 10MF	20% 50V	C8331	1-126-960-11	ELECT 1MF	20% 50V
C8221	1-104-664-11	ELECT 47MF	20% 16V	C8332	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C8222	1-104-664-11	ELECT 47MF	20% 16V	C8343	1-163-185-00	CERAMIC CHIP 150PF	5% 50V
C8223	1-104-664-11	ELECT 47MF	20% 16V				(KV-32FX60B)
C8224	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8344	1-163-173-00	CERAMIC CHIP 47PF	5% 50V
C8225	1-104-664-11	ELECT 47MF	20% 16V				(KV-32FX60B)
C8228	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C8345	1-126-933-11	ELECT 100MF	20% 16V
C8229	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V				(KV-32FX60B)
C8230	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C8450	1-104-664-11	ELECT 47MF	20% 16V
C8231	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C8451	1-104-664-11	ELECT 47MF	20% 16V
C8232	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8455	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8233	1-104-664-11	ELECT 47MF	20% 16V	C8456	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8234	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8601	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8235	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8602	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8236	1-126-933-11	ELECT 100MF	20% 16V	C8605	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8237	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C8606	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8238	1-164-505-11	CERAMIC CHIP 2.2MF	16V	C8607	1-104-664-11	ELECT 47MF	20% 16V
C8239	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8608	1-104-664-11	ELECT 47MF	20% 16V
C8240	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8609	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8241	1-126-964-11	ELECT 10MF	20% 50V	C8610	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8242	1-104-664-11	ELECT 47MF	20% 16V	C8611	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8300	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	C8612	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8301	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8613	1-104-664-11	ELECT 47MF	20% 16V
C8302	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8614	1-104-664-11	ELECT 47MF	20% 16V
C8303	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	C8700	1-126-964-11	ELECT 10MF	20% 50V
C8304	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8701	1-104-664-11	ELECT 47MF	20% 16V
C8305	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8702	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C8306	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8703	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8307	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8704	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V
C8308	1-126-933-11	ELECT 100MF	20% 16V	C8705	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V
C8310	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8706	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C8311	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8707	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C8312	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8708	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8313	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8709	1-126-964-11	ELECT 10MF	20% 50V
C8314	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8710	1-126-933-11	ELECT 100MF	20% 16V
C8315	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8900	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C8316	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8901	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C8317	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8902	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C8318	1-126-933-11	ELECT 100MF	20% 16V	C8903	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C8319	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8904	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C8320	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8905	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C8321	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8906	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C8907	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D8919	8-719-914-43	DIODE DAN202K-T-146	
C8908	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D8920	8-719-914-43	DIODE DAN202K-T-146	
C8909	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D8921	8-719-976-99	DIODE UDZ-TE-17-5.1B	
C8910	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D8922	8-719-056-84	DIODE UDZ-TE-17-7.5B	
C8911	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D8923	8-719-978-04	DIODE DTZ-TT11-3.3B	
C8916	1-126-933-11	ELECT 100MF	20% 16V	< FILTER >			
C8977	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	FL8200	1-236-071-11	ENCAPSULATED COMPONENT	
C8978	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	FL8201	1-233-764-21	FILTER	
< FILTER >				FL8203	1-236-071-11	ENCAPSULATED COMPONENT	
CF8200	1-409-327-00	TRAP, CERAMIC (6.5MHZ)		FL8300	1-236-071-11	ENCAPSULATED COMPONENT	
< CONNECTOR >				FL8301	1-236-071-11	ENCAPSULATED COMPONENT	
CN8101	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P		FL8700	1-236-071-11	ENCAPSULATED COMPONENT	
CN8102	*1-564-518-11	PLUG, CONNECTOR 3P		FL8701	1-236-071-11	ENCAPSULATED COMPONENT	
CN8900	1-561-534-41	SOCKET, PIN 21P		< IC >			
CN8901	1-695-293-11	SOCKET 21P		IC8100	8-759-352-94	IC TDA7309D013TR	
CN8902	1-695-293-11	SOCKET 21P		IC8101	8-759-085-34	IC TDA2822D	
< DIODE >				IC8125	8-759-351-01	IC TEA6422DT	
D8125	8-719-158-49	DIODE RD12SB2		IC8151	8-752-072-94	IC CXA1875AM-T4	
D8126	8-719-158-49	DIODE RD12SB2		IC8200	8-759-544-10	IC MSP3410D-QA-B4	
D8127	8-719-158-49	DIODE RD12SB2		IC8201	8-759-701-36	IC NJM3403AM	
D8128	8-719-158-49	DIODE RD12SB2		IC8202	8-759-908-15	IC TL431CLP	
D8129	8-719-158-49	DIODE RD12SB2		IC8300	8-759-546-01	IC TDA9320H-M1-518	
D8130	8-719-158-49	DIODE RD12SB2		IC8451	8-759-385-76	IC MC14052BDR2	
D8131	8-719-158-49	DIODE RD12SB2		IC8601	8-759-544-24	IC LF90CDT	
D8132	8-719-158-49	DIODE RD12SB2		IC8602	8-759-544-23	IC LF80CDT	
D8200	8-719-158-49	DIODE RD12SB2		IC8603	8-759-544-22	IC LF50CDT	
D8201	8-719-158-49	DIODE RD12SB2		IC8604	8-759-544-22	IC LF50CDT	
D8202	8-719-158-49	DIODE RD12SB2		IC8700	8-752-074-78	IC CXD2057M	
D8203	8-719-158-49	DIODE RD12SB2		< JACK >			
D8349	8-719-914-42	DIODE DA204K		J8901	1-774-747-11	JACK BLOCK, PIN	
D8450	8-719-158-49	DIODE RD12SB2		< COIL >			
D8451	8-719-158-49	DIODE RD12SB2		L8150	1-414-757-11	INDUCTOR 100UH	
D8900	8-719-056-85	DIODE UDZ-TE-17-8.2B		L8200	1-412-006-31	INDUCTOR CHIP 10UH	
D8901	8-719-056-85	DIODE UDZ-TE-17-8.2B		L8201	1-412-064-11	INDUCTOR CHIP 100UH	
D8902	8-719-056-85	DIODE UDZ-TE-17-8.2B		L8343	1-410-425-11	INDUCTOR 33UH	(KV-32FX60B)
D8903	8-719-056-85	DIODE UDZ-TE-17-8.2B		< TRANSISTOR >			
D8904	8-719-056-85	DIODE UDZ-TE-17-8.2B		Q8100	8-729-620-06	TRANSISTOR 2SC3052-EF	
D8905	8-719-056-85	DIODE UDZ-TE-17-8.2B		Q8101	8-729-620-06	TRANSISTOR 2SC3052-EF	
D8906	8-719-056-85	DIODE UDZ-TE-17-8.2B		Q8156	8-729-620-06	TRANSISTOR 2SC3052-EF	
D8907	8-719-056-85	DIODE UDZ-TE-17-8.2B		Q8157	8-729-620-06	TRANSISTOR 2SC3052-EF	
D8908	8-719-056-85	DIODE UDZ-TE-17-8.2B		Q8200	8-729-620-06	TRANSISTOR 2SC3052-EF	
D8909	8-719-056-85	DIODE UDZ-TE-17-8.2B		Q8201	8-729-620-06	TRANSISTOR 2SC3052-EF	
D8910	8-719-056-85	DIODE UDZ-TE-17-8.2B		Q8202	8-729-620-06	TRANSISTOR 2SC3052-EF	
D8911	8-719-056-85	DIODE UDZ-TE-17-8.2B		Q8301	8-729-038-96	TRANSISTOR IMZ1A-T109	
D8912	8-719-158-49	DIODE RD12SB2		Q8303	8-729-620-06	TRANSISTOR 2SC3052-EF	
D8913	8-719-158-49	DIODE RD12SB2		Q8304	8-729-620-06	TRANSISTOR 2SC3052-EF	
D8914	8-719-158-49	DIODE RD12SB2					
D8915	8-719-158-49	DIODE RD12SB2					



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
Q8305	8-729-620-06	TRANSISTOR 2SC3052-EF		R8201	1-216-295-91	SHORT 0	
Q8306	8-729-620-06	TRANSISTOR 2SC3052-EF		R8202	1-216-021-00	RES,CHIP 68 5% 1/10W	
Q8307	8-729-620-06	TRANSISTOR 2SC3052-EF		R8203	1-216-069-00	RES,CHIP 6.8K 5% 1/10W	
Q8308	8-729-038-96	TRANSISTOR IMZ1A-T109		R8204	1-216-049-91	RES,CHIP 1K 5% 1/10W	
Q8309	8-729-038-96	TRANSISTOR IMZ1A-T109		R8205	1-216-069-00	RES,CHIP 6.8K 5% 1/10W	
Q8310	8-729-038-96	TRANSISTOR IMZ1A-T109		R8206	1-216-049-91	RES,CHIP 1K 5% 1/10W	
Q8311	8-729-620-06	TRANSISTOR 2SC3052-EF		R8208	1-216-037-00	RES,CHIP 330 5% 1/10W	
Q8343	8-729-620-06	TRANSISTOR 2SC3052-EF	(KV-32FX60B)	R8209	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
Q8450	8-729-216-22	TRANSISTOR 2SA1162-G		R8210	1-216-025-91	RES,CHIP 100 5% 1/10W	
Q8453	8-729-216-22	TRANSISTOR 2SA1162-G		R8211	1-216-295-91	SHORT 0	
Q8456	8-729-620-06	TRANSISTOR 2SC3052-EF		R8212	1-216-295-91	SHORT 0	
Q8459	8-729-216-22	TRANSISTOR 2SA1162-G		R8213	1-216-295-91	SHORT 0	
Q8461	8-729-216-22	TRANSISTOR 2SA1162-G		R8214	1-216-295-91	SHORT 0	
Q8700	8-729-620-06	TRANSISTOR 2SC3052-EF		R8216	1-216-025-91	RES,CHIP 100 5% 1/10W	
Q8900	8-729-620-06	TRANSISTOR 2SC3052-EF		R8217	1-216-025-91	RES,CHIP 100 5% 1/10W	
Q8901	8-729-620-06	TRANSISTOR 2SC3052-EF		R8223	1-216-089-91	RES,CHIP 47K 5% 1/10W	
Q8903	8-729-620-06	TRANSISTOR 2SC3052-EF		R8224	1-216-089-91	RES,CHIP 47K 5% 1/10W	
< RESISTOR >				R8225	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8100	1-216-025-91	RES,CHIP 100 5% 1/10W		R8226	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8101	1-216-025-91	RES,CHIP 100 5% 1/10W		R8227	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8102	1-216-295-91	SHORT 0		R8228	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8103	1-216-089-91	RES,CHIP 47K 5% 1/10W		R8229	1-216-295-91	SHORT 0	
R8104	1-216-089-91	RES,CHIP 47K 5% 1/10W		R8230	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R8105	1-216-057-00	RES,CHIP 2.2K 5% 1/10W		R8231	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8106	1-216-081-00	RES,CHIP 22K 5% 1/10W		R8232	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8107	1-216-081-00	RES,CHIP 22K 5% 1/10W		R8233	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8108	1-216-057-00	RES,CHIP 2.2K 5% 1/10W		R8234	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8109	1-249-389-11	CARBON 4.7 5% 1/4W F		R8235	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8110	1-249-389-11	CARBON 4.7 5% 1/4W F		R8236	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R8111	1-216-033-00	RES,CHIP 220 5% 1/10W		R8237	1-216-043-91	RES,CHIP 560 5% 1/10W	
R8112	1-216-033-00	RES,CHIP 220 5% 1/10W		R8238	1-216-063-91	RES,CHIP 3.9K 5% 1/10W	
R8115	1-216-033-00	RES,CHIP 220 5% 1/10W		R8239	1-216-069-00	RES,CHIP 6.8K 5% 1/10W	
R8116	1-216-033-00	RES,CHIP 220 5% 1/10W		R8240	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R8117	1-216-033-00	RES,CHIP 220 5% 1/10W		R8243	1-216-021-00	RES,CHIP 68 5% 1/10W	
R8118	1-216-033-00	RES,CHIP 220 5% 1/10W		R8300	1-216-041-00	RES,CHIP 470 5% 1/10W	
R8125	1-216-295-91	SHORT 0		R8301	1-216-295-91	SHORT 0	
R8126	1-216-057-00	RES,CHIP 2.2K 5% 1/10W		R8302	1-216-017-91	RES,CHIP 47 5% 1/10W	
R8127	1-216-113-00	RES,CHIP 470K 5% 1/10W		R8303	1-216-041-00	RES,CHIP 470 5% 1/10W	
R8128	1-216-049-91	RES,CHIP 1K 5% 1/10W		R8304	1-216-041-00	RES,CHIP 470 5% 1/10W	
R8129	1-216-025-91	RES,CHIP 100 5% 1/10W		R8305	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R8130	1-216-025-91	RES,CHIP 100 5% 1/10W		R8307	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R8131	1-216-049-91	RES,CHIP 1K 5% 1/10W		R8308	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R8132	1-216-057-00	RES,CHIP 2.2K 5% 1/10W		R8309	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R8133	1-216-113-00	RES,CHIP 470K 5% 1/10W		R8310	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R8165	1-216-295-91	SHORT 0		R8311	1-216-085-00	RES,CHIP 33K 5% 1/10W	
R8167	1-216-025-91	RES,CHIP 100 5% 1/10W		R8312	1-216-077-00	RES,CHIP 15K 5% 1/10W	
R8168	1-216-025-91	RES,CHIP 100 5% 1/10W		R8313	1-216-041-00	RES,CHIP 470 5% 1/10W	
R8174	1-216-065-91	RES,CHIP 4.7K 5% 1/10W		R8314	1-216-043-91	RES,CHIP 560 5% 1/10W	
R8175	1-216-065-91	RES,CHIP 4.7K 5% 1/10W		R8316	1-216-295-91	SHORT 0	
R8200	1-216-049-91	RES,CHIP 1K 5% 1/10W		R8317	1-216-025-91	RES,CHIP 100 5% 1/10W	
				R8318	1-216-025-91	RES,CHIP 100 5% 1/10W	



REF. NO.	PART.NO	DESCRIPTION	REMARK			REF. NO.	PART.NO	DESCRIPTION	REMARK		
R8319	1-216-295-91	SHORT	0			R8467	1-216-089-91	RES,CHIP	47K	5%	1/10W
R8320	1-216-295-91	SHORT	0			R8468	1-216-073-00	RES,CHIP	10K	5%	1/10W
R8321	1-216-049-91	RES,CHIP	1K	5%	1/10W	R8469	1-216-033-00	RES,CHIP	220	5%	1/10W
R8322	1-216-049-91	RES,CHIP	1K	5%	1/10W	R8470	1-216-022-00	RES,CHIP	75	5%	1/10W
R8323	1-216-097-91	RES,CHIP	100K	5%	1/10W	R8472	1-216-089-91	RES,CHIP	47K	5%	1/10W
R8325	1-216-041-00	RES,CHIP	470	5%	1/10W	R8473	1-216-073-00	RES,CHIP	10K	5%	1/10W
R8326	1-216-041-00	RES,CHIP	470	5%	1/10W	R8474	1-216-033-00	RES,CHIP	220	5%	1/10W
R8327	1-216-041-00	RES,CHIP	470	5%	1/10W	R8475	1-216-022-00	RES,CHIP	75	5%	1/10W
R8328	1-216-041-00	RES,CHIP	470	5%	1/10W	R8700	1-216-049-91	RES,CHIP	1K	5%	1/10W
R8329	1-216-041-00	RES,CHIP	470	5%	1/10W	R8701	1-216-073-00	RES,CHIP	10K	5%	1/10W
R8330	1-216-041-00	RES,CHIP	470	5%	1/10W	R8702	1-216-025-91	RES,CHIP	100	5%	1/10W
R8331	1-216-041-00	RES,CHIP	470	5%	1/10W	R8703	1-216-025-91	RES,CHIP	100	5%	1/10W
R8332	1-216-041-00	RES,CHIP	470	5%	1/10W	R8704	1-216-025-91	RES,CHIP	100	5%	1/10W
R8333	1-216-041-00	RES,CHIP	470	5%	1/10W	R8705	1-216-295-91	SHORT	0		
R8334	1-216-017-91	RES,CHIP	47	5%	1/10W	R8706	1-216-049-91	RES,CHIP	1K	5%	1/10W
R8335	1-216-017-91	RES,CHIP	47	5%	1/10W	R8707	1-216-089-91	RES,CHIP	47K	5%	1/10W
R8337	1-216-077-00	RES,CHIP	15K	5%	1/10W	R8708	1-216-089-91	RES,CHIP	47K	5%	1/10W
R8338	1-216-017-91	RES,CHIP	47	5%	1/10W	R8900	1-216-039-00	RES,CHIP	390	5%	1/10W
R8339	1-216-017-91	RES,CHIP	47	5%	1/10W	R8901	1-216-049-91	RES,CHIP	1K	5%	1/10W
R8340	1-216-049-91	RES,CHIP	1K	5%	1/10W	R8902	1-216-039-00	RES,CHIP	390	5%	1/10W
R8343	1-216-041-00	RES,CHIP	470	5%	1/10W (KV-32FX60B)	R8903	1-216-089-91	RES,CHIP	47K	5%	1/10W
R8344	1-216-041-00	RES,CHIP	470	5%	1/10W (KV-32FX60B)	R8904	1-216-089-91	RES,CHIP	47K	5%	1/10W
R8345	1-216-033-00	RES,CHIP	220	5%	1/10W (KV-32FX60B)	R8905	1-216-113-00	RES,CHIP	470K	5%	1/10W
R8346	1-216-295-41	SHORT	0			R8906	1-216-039-00	RES,CHIP	390	5%	1/10W
		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/28FX60U/32FX60A/ 32FX60D/32FX60E/32FX60K/32FX60R/ 32FX60U)				R8907	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R8347	1-216-025-91	RES,CHIP	100	5%	1/10W (KV-32FX60B)	R8908	1-216-039-00	RES,CHIP	390	5%	1/10W
R8348	1-216-295-91	SHORT	0			R8909	1-216-049-91	RES,CHIP	1K	5%	1/10W
R8349	1-216-121-91	RES,CHIP	1M	5%	1/10W	R8911	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R8350	1-216-073-00	RES,CHIP	10K	5%	1/10W	R8913	1-216-022-00	RES,CHIP	75	5%	1/10W
R8351	1-216-073-00	RES,CHIP	10K	5%	1/10W	R8914	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R8352	1-216-089-91	RES,CHIP	47K	5%	1/10W (KV-32FX60B)	R8915	1-216-022-00	RES,CHIP	75	5%	1/10W
R8353	1-216-081-00	RES,CHIP	22K	5%	1/10W (KV-32FX60B)	R8916	1-216-033-00	RES,CHIP	220	5%	1/10W
R8354	1-216-067-00	RES,CHIP	5.6K	5%	1/10W	R8917	1-216-033-00	RES,CHIP	220	5%	1/10W
R8355	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R8918	1-216-113-00	RES,CHIP	470K	5%	1/10W
R8356	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R8919	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R8450	1-216-089-91	RES,CHIP	47K	5%	1/10W	R8922	1-216-022-00	RES,CHIP	75	5%	1/10W
R8451	1-216-073-00	RES,CHIP	10K	5%	1/10W	R8923	1-216-022-00	RES,CHIP	75	5%	1/10W
R8453	1-216-089-91	RES,CHIP	47K	5%	1/10W	R8924	1-216-022-00	RES,CHIP	75	5%	1/10W
R8454	1-216-073-00	RES,CHIP	10K	5%	1/10W	R8925	1-216-022-00	RES,CHIP	75	5%	1/10W
R8455	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R8926	1-216-033-00	RES,CHIP	220	5%	1/10W
R8460	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R8927	1-216-033-00	RES,CHIP	220	5%	1/10W
R8462	1-216-073-00	RES,CHIP	10K	5%	1/10W	R8928	1-216-033-00	RES,CHIP	220	5%	1/10W
						R8929	1-216-039-00	RES,CHIP	390	5%	1/10W
						R8930	1-216-049-91	RES,CHIP	1K	5%	1/10W
						R8931	1-216-039-00	RES,CHIP	390	5%	1/10W
						R8932	1-216-049-91	RES,CHIP	1K	5%	1/10W
						R8933	1-216-089-91	RES,CHIP	47K	5%	1/10W
						R8934	1-216-089-91	RES,CHIP	47K	5%	1/10W
						R8935	1-216-113-00	RES,CHIP	470K	5%	1/10W
						R8936	1-216-113-00	RES,CHIP	470K	5%	1/10W
						R8937	1-216-039-00	RES,CHIP	390	5%	1/10W

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The components identified by shading and marked **△** are critical for safety  
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R8938	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	MISCELLANEOUS			
R8939	1-216-039-00	RES,CHIP	390 5% 1/10W	*****			
R8940	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	△ 1-416-466-11	COIL, DEMAGNETIC (KV-28FX60)		
R8941	1-216-063-91	RES,CHIP	3.9K 5% 1/10W	△ 1-416-769-11	COIL, DEMAGNETIC (KV-32FX60)		
R8942	1-216-009-00	RES,CHIP	22 5% 1/10W	1-425-032-00	MAGNETIC DISK; 10MM		
R8943	1-216-022-00	RES,CHIP	75 5% 1/10W	1-452-094-00	MAGNETIC, ROTATABLE DISK; 15MM		
R8944	1-216-071-00	RES,CHIP	8.2K 5% 1/10W	△ 1-453-272-11	TRANSFORMER ASSY, FLYBACK		
R8945	1-216-022-00	RES,CHIP	75 5% 1/10W		(NX-4512/U2B4) (KV-28FX60)		
R8946	1-216-033-00	RES,CHIP	220 5% 1/10W	1-529-153-11	SPEAKER (4.8X20CM)		
R8947	1-216-039-00	RES,CHIP	390 5% 1/10W	1-529-144-11	SPEAKER (13CM)		
R8948	1-216-049-91	RES,CHIP	1K 5% 1/10W	1-452-896-11	COIL, NA ROTATION (RT200)		
R8949	1-216-022-00	RES,CHIP	75 5% 1/10W	△ 1-571-433-21	SWITCH, PUSH (AC POWER)		
R8950	1-216-089-91	RES,CHIP	47K 5% 1/10W	△ 1-574-062-61	CORD, POWER (WITH CONNECTOR)		
R8951	1-216-033-00	RES,CHIP	220 5% 1/10W		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 28FX60K/28FX60R/32FX60A/32FX60B/ 32FX60D/32FX60E/32FX60K/32FX60R)		
R8952	1-216-113-00	RES,CHIP	470K 5% 1/10W	△ 1-590-762-21	CORD, POWER (WITH UK PLUG)		
R8953	1-216-039-00	RES,CHIP	390 5% 1/10W		(KV-28FX60U/32FX60U)		
R8954	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	1-693-338-11	TUNER/VIF (AEP)		
R8955	1-216-039-00	RES,CHIP	390 5% 1/10W		(KV-28FX60A/28FX60B/28FX60D/28FX60E/ 38FX60K/28FX60R/32FX60A/32FX60D/ 32FX60E/32FX60K/32FX60R)		
R8956	1-216-049-91	RES,CHIP	1K 5% 1/10W	1-693-340-11	TUNER/VIF (FR) (KV-32FX60B)		
R8957	1-216-049-91	RES,CHIP	1K 5% 1/10W	1-693-339-11	TUNER/VIF (UK) (KV-28FX60U/32FX60U)		
R8958	1-216-089-91	RES,CHIP	47K 5% 1/10W	△ 8-737-785-05	PICTURE TUBE (W66LLX010X) (KV-28FX60)		
R8959	1-216-022-00	RES,CHIP	75 5% 1/10W	△ 8-735-054-05	PICTURE TUBE (W76LLZ060X) (SD-302)		
R8960	1-216-033-00	RES,CHIP	220 5% 1/10W		(KV-32FX60)		
R8961	1-216-022-00	RES,CHIP	75 5% 1/10W	△ 1-451-481-11	DEFLECTION YOKE (Y28RVC2) (KV-28FX60)		
R8963	1-216-113-00	RES,CHIP	470K 5% 1/10W	△ 1-451-480-11	DEFLECTION YOKE (Y28RVC2) (KV-32FX60)		
R8964	1-216-039-00	RES,CHIP	390 5% 1/10W	△ 8-453-011-11	NECK ASSY, NA299-M		
R8965	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	△ 1-251-317-31	CAP ASSY, HIGH VOLTAGE		
R8966	1-216-022-00	RES,CHIP	75 5% 1/10W	*****			
R8969	1-216-033-00	RES,CHIP	220 5% 1/10W	ACCESSORIES AND PACKAGING MATERIALS (KV-28FX60)			
R8977	1-216-037-00	RES,CHIP	330 5% 1/10W	*****			
R8978	1-216-037-00	RES,CHIP	330 5% 1/10W	4-204-548-41	MANUAL, INSTRUCTION (KV-28FX60A)		
R8979	1-216-045-00	RES,CHIP	680 5% 1/10W		(ITALIAN)		
R8980	1-216-045-00	RES,CHIP	680 5% 1/10W	4-204-548-51	MANUAL, INSTRUCTION (KV-28FX60B)		
R8981	1-216-085-00	RES,CHIP	33K 5% 1/10W		(FRENCH/GERMAN/ITALIAN/DUTCH)		
R8982	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	4-204-548-11	MANUAL, INSTRUCTION (KV-28FX60D)		
R8983	1-216-077-00	RES,CHIP	15K 5% 1/10W		(GERMAN/ENGLISH/GERMAN/TURKISH)		
R8987	1-216-081-00	RES,CHIP	22K 5% 1/10W	4-204-548-71	MANUAL, INSTRUCTION (KV-28FX60E)		
R8988	1-216-081-00	RES,CHIP	22K 5% 1/10W		(SPANISH)		
R8989	1-216-081-00	RES,CHIP	22K 5% 1/10W	4-204-548-81	MANUAL, INSTRUCTION (KV-28FX60E)		
R8990	1-216-057-00	RES,CHIP	2.2K 5% 1/10W		(PORTUGUESE/FINNISH/DANISH/ NORWEGIAN/SWEDISH)		
R8991	1-216-097-91	RES,CHIP	100K 5% 1/10W	4-204-548-91	MANUAL, INSTRUCTION (KV-28FX60K/28FX60R)		
R8992	1-216-057-00	RES,CHIP	2.2K 5% 1/10W		(RUSSIAN/BULGARIAN/ENGLISH/CZECH)		
R8993	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	4-204-548-61	MANUAL, INSTRUCTION (KV-28FX60U)		
< CRYSTAL >					(ENGLISH)		
X8200	1-781-148-21	VIBRATOR, CRYSTAL		*4-029-168-01	BAG, PROTECTION		
X8300	1-567-504-11	OSCILLATOR, CRYSTAL					
X8301	1-567-505-11	OSCILLATOR, CRYSTAL					
X8700	1-767-342-21	VIBRATOR, CRYSTAL					

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
	*4-204-457-01	INDIVIDUAL CARTON					
	*4-204-451-01	CUSHION (UPPER) (ASSY)					
	*4-204-454-01	CUSHION (LOWER) (ASSY)					
*****							
		ACCESSORIES AND PACKAGING MATERIALS (KV-32FX60)					
		*****					
	4-204-561-41	MANUAL, INSTRUCTION (KV-32FX60A)					
		(ITALIAN)					
	4-204-561-51	MANUAL, INSTRUCTION (KV-32FX60B)					
		(FRENCH/GERMAN/ITALIAN/DUTCH)					
	4-204-561-11	MANUAL, INSTRUCTION (KV-32FX60D)					
		(GERMAN/ENGLISH/GERMAN/TURKISH)					
	4-204-561-71	MANUAL, INSTRUCTION (KV-32FX60E)					
		(SPANISH/PORTUGUESE/FINNISH/DANISH/ NORWEGIAN/SWEDISH)					
	4-204-561-91	MANUAL, INSTRUCTION					
		(KV-32FX60K/32FX60R)					
		(RUSSIAN/BULGARIAN/ENGLISH/CZECH)					
	4-204-561-61	MANUAL, INSTRUCTION (KV-32FX60U)					
		(ENGLISH)					
	*4-029-168-01	BAG, PROTECTION					
	*4-204-378-01	INDIVIDUAL CARTON					
	*4-204-387-01	CUSHION (UPPER) (ASSY)					
	*4-204-388-01	CUSHION (LOWER) (ASSY)					
*****							
		REMOTE COMMANDER					
		*****					
	1-418-047-11	REMOTE COMMANDER (RM-891)					

# SONY®

## SERVICE MANUAL

## AE-5 CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
<b>KV-28FX60A</b>	RM-892	ET	SCC-Q12D-A	<b>KV-32FX60A</b>	RM-892	ET	SCC-Q12B-A
<b>KV-28FX60B</b>	RM-892	FR	SCC-Q13D-A	<b>KV-32FX60B</b>	RM-892	FR	SCC-Q13B-A
<b>KV-28FX60D</b>	RM-892	AEP	SCC-Q11D-A	<b>KV-32FX60D</b>	RM-892	AEP	SCC-Q11B-A
<b>KV-28FX60E</b>	RM-892	ESP	SCC-Q14D-A	<b>KV-32FX60E</b>	RM-892	ESP	SCC-Q14B-A
<b>KV-28FX60K</b>	RM-892	OIRT	SCC-Q16F-A	<b>KV-32FX60K</b>	RM-892	OIRT	SCC-Q16A-A
<b>KV-28FX60R</b>	RM-892	OIRT	SCC-Q16E-A	<b>KV-32FX60R</b>	RM-892	OIRT	SCC-Q16B-A
<b>KV-28FX60U</b>	RM-892	UK	SCC-Q15C-A	<b>KV-32FX60U</b>	RM-892	UK	SCC-Q15B-A

## SUPPLEMENT - 1

SUBJECT : INTRODUCTION OF NEW J (REFINE) BOARD

File this supplement with the service manual

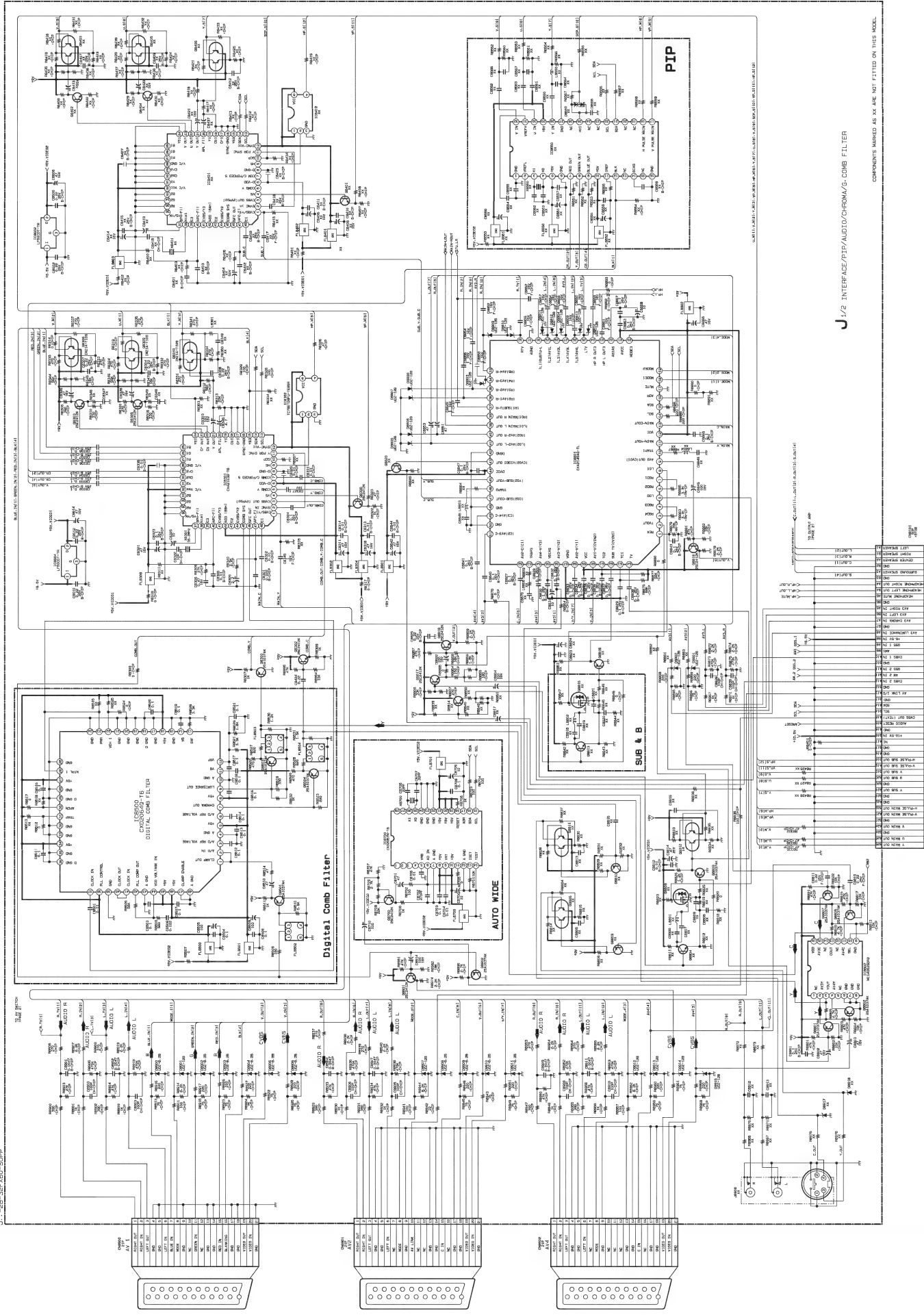
**INTRODUCTION : 1. Introduction of new J (refine) board.**

**SECTION 5 DIAGRAMS (J Board, Page 63)**

**SECTION 7 ELECTRICAL PARTS LIST (Page 147)**

This image shows a detailed view of a Sony electronic circuit board, specifically a power supply or amplifier section. The board is densely populated with various electronic components, including integrated circuits, capacitors, resistors, and diodes. A large Sony logo is prominently displayed in the center. The board is oriented vertically, with components arranged in a complex, symmetrical pattern. The image is a high-contrast, black and white photograph, providing a clear view of the intricate details of the circuitry.

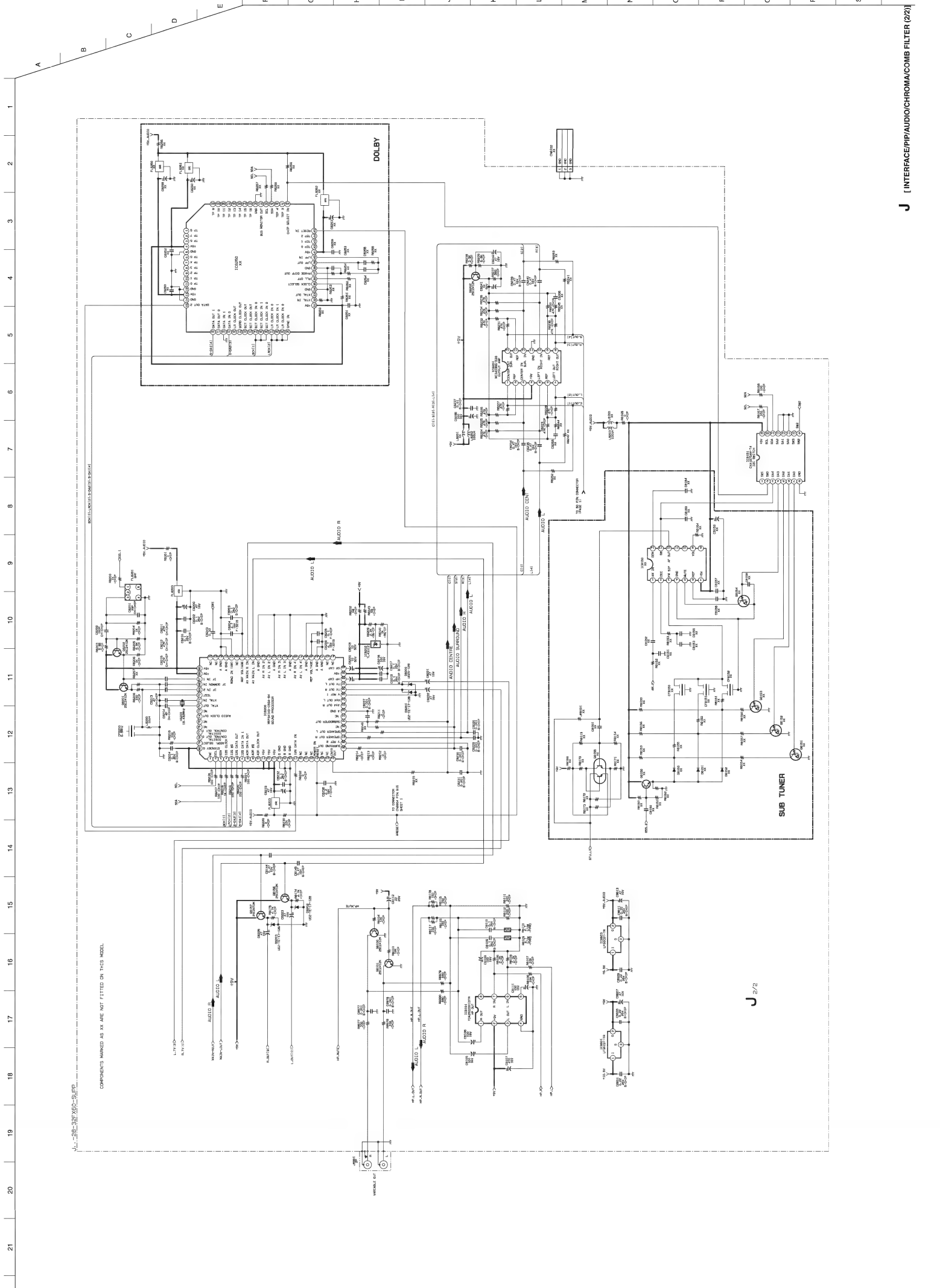
[illegible]



J-2 INTERFACE/PIF/AUDIO/CHROMA/G/COMB FILTER

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL





COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

# ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

Items marked “ \* ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

**Note :** Les composants identifiés par une trame et par une marque  $\Delta$  sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

**Note :** The components identified by shading and marked  $\Delta$  are critical for safety. Replace only with the part numbers specified in the parts list.

**CAPACITORS**      **COILS**  
MF : mF, PF : mmF      MMH : mH , uH

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## RESISTORS

All resistors are in ohms.  
F : nonflammable.

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
<b>A-1651-123-A MOUNTED PC BOARD, J (REFINE)</b> (KV-28FX60A/28FX60B/28FX60D/ 28FX60E/28FX60K/28FX60R/ 28FX60U/32FX60A/32FX60D/ 32FX60E/32FX60K/32FX60R/				C8224	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
				C8225	1-104-664-11	ELECT 47UF	20.00% 16V
				C8227	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
				C8228	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
				C8229	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
				C8230	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
				C8231	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V
				C8232	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
				C8233	1-104-664-11	ELECT 47UF	20.00% 16V
				C8234	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
				C8235	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
				C8236	1-126-933-11	ELECT 100UF	20.00% 16V
				C8237	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
				C8238	1-164-505-11	CERAMIC CHIP 2.2UF	16V
				C8239	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
				C8240	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
				C8241	1-126-964-11	ELECT 10UF	20.00% 50V
				C8242	1-104-664-11	ELECT 47UF	20.00% 16V
				C8243	1-110-501-11	CERAMIC CHIP 0.33UF	10.00% 16V
				C8301	1-163-037-11	CERAMIC CHIP 0.022UF	10.00% 50V
				C8302	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
				C8303	1-126-933-11	ELECT 100UF	20.00% 16V
				C8304	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
				C8305	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
				C8306	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
				C8307	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
				C8308	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
				C8309	1-126-961-11	ELECT 2.2UF	20.00% 50V
				C8311	1-104-664-11	ELECT 47UF	20.00% 16V
				C8313	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
				C8314	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
				C8318	1-104-664-11	ELECT 47UF	20.00% 16V
				C8321	1-104-664-11	ELECT 47UF	20.00% 16V
				C8322	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
				C8323	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
				C8324	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
				C8325	1-126-964-11	ELECT 10UF	20.00% 50V
				C8326	1-104-664-11	ELECT 47UF	20.00% 16V
				C8327	1-107-682-11	CERAMIC CHIP 1UF	10.00% 16V
				C8328	1-104-664-11	ELECT 47UF	20.00% 16V
<b>A-1651-119-A MOUNTED PC BOARD, J (REFINE)</b> (KV-28FX60B)							
<CAPACITOR>							
C8105	1-126-933-11	ELECT 100UF	20.00% 16V				
C8106	1-126-933-11	ELECT 100UF	20.00% 16V				
C8107	1-126-935-11	ELECT 470UF	20.00% 16V				
C8108	1-126-933-11	ELECT 100UF	20.00% 16V				
C8109	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V				
C8110	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V				
C8111	1-126-933-11	ELECT 100UF	20.00% 16V				
C8112	1-128-551-11	ELECT 22UF	20.00% 25V				
C8144	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V				
C8145	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V				
C8200	1-104-664-11	ELECT 47UF	20.00% 16V				
C8201	1-163-241-11	CERAMIC CHIP 39PF	5.00% 50V				
C8202	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V				
C8203	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V				
C8204	1-164-506-11	CERAMIC CHIP 4.7UF	16V				
C8205	1-165-319-11	CERAMIC CHIP 0.1UF	50V				
C8208	1-164-506-11	CERAMIC CHIP 4.7UF	16V				
C8209	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V				
C8210	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V				
C8211	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V				
C8212	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V				
C8213	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V				
C8214	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V				
C8215	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V				
C8216	1-126-933-11	ELECT 100UF	20.00% 16V				
C8217	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V				
C8218	1-126-964-11	ELECT 10UF	20.00% 50V				
C8219	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V				
C8220	1-126-964-11	ELECT 10UF	20.00% 50V				
C8221	1-104-664-11	ELECT 47UF	20.00% 16V				
C8222	1-104-664-11	ELECT 47UF	20.00% 16V				
C8223	1-104-664-11	ELECT 47UF	20.00% 16V				



REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C8329	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V	C8706	1-163-235-11	CERAMIC CHIP 22PF	5.00% 50V
C8331	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V	C8707	1-163-235-11	CERAMIC CHIP 22PF	5.00% 50V
C8332	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8708	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8333	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8709	1-126-964-11	ELECT 10UF	20.00% 50V
C8334	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8710	1-126-933-11	ELECT 100UF	20.00% 16V
C8335	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V	C8801	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8336	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8802	1-104-664-11	ELECT 47UF	20.00% 16V
C8337	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8803	1-104-664-11	ELECT 47UF	20.00% 16V
C8338	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8804	1-126-933-11	ELECT 100UF	20.00% 16V
C8345	1-164-346-11	CERAMIC CHIP 1UF	16V	C8810	1-164-222-11	CERAMIC CHIP 0.22UF	25V
C8346	1-126-963-11	ELECT 4.7UF	20.00% 50V	C8811	1-164-222-11	CERAMIC CHIP 0.22UF	25V
C8424	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8812	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C8501	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V	C8814	1-104-664-11	ELECT 47UF	20.00% 25V
C8503	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8822	1-126-933-11	ELECT 100UF	20.00% 16V
C8504	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8825	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
C8505	1-126-933-11	ELECT 100UF	20.00% 16V	C8826	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8506	1-163-037-11	CERAMIC CHIP 0.022UF	10.00% 50V	C8827	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8507	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8828	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8508	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8829	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8509	1-126-933-11	ELECT 100UF	20.00% 16V	C8830	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8510	1-104-664-11	ELECT 47UF	20.00% 16V	C8831	1-126-964-11	ELECT 10UF	20.00% 50V
C8511	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8832	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8512	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8833	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8513	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8834	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8514	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8835	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8515	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8836	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8516	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8837	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8517	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8838	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8518	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8839	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C8519	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8840	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8520	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8841	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8521	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8842	1-104-664-11	ELECT 47UF	20.00% 16V
C8601	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8843	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8602	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8844	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C8605	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8846	1-126-933-11	ELECT 100UF	20.00% 16V
C8606	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8847	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8607	1-104-664-11	ELECT 47UF	20.00% 16V	C8849	1-164-346-11	CERAMIC CHIP 1UF	16V
C8608	1-104-664-11	ELECT 47UF	20.00% 16V	C8850	1-164-346-11	CERAMIC CHIP 1UF	16V
C8609	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8851	1-126-967-11	ELECT 47UF	20.00% 50V
C8610	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8852	1-164-346-11	CERAMIC CHIP 1UF	16V
C8611	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8853	1-126-967-11	ELECT 47UF	20.00% 50V
C8612	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V	C8854	1-164-346-11	CERAMIC CHIP 1UF	16V
C8613	1-104-664-11	ELECT 47UF	20.00% 16V	C8855	1-164-346-11	CERAMIC CHIP 1UF	16V
C8614	1-104-664-11	ELECT 47UF	20.00% 16V	C8856	1-164-346-11	CERAMIC CHIP 1UF	16V
C8700	1-126-964-11	ELECT 10UF	20.00% 50V	C8857	1-164-346-11	CERAMIC CHIP 1UF	16V
C8701	1-104-664-11	ELECT 47UF	20.00% 16V	C8858	1-164-346-11	CERAMIC CHIP 1UF	16V
C8702	1-163-133-00	CERAMIC CHIP 470PF	5.00% 50V	C8859	1-164-346-11	CERAMIC CHIP 1UF	16V
C8703	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	C8860	1-164-346-11	CERAMIC CHIP 1UF	16V
C8704	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V	C8861	1-164-346-11	CERAMIC CHIP 1UF	16V
C8705	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V	C8862	1-164-346-11	CERAMIC CHIP 1UF	16V

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C8863	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	D8813	8-719-158-49	DIODE UDZ-TE-17-12B	
C8864	1-164-346-11	CERAMIC CHIP 1UF	16V	D8814	8-719-158-49	DIODE UDZ-TE-17-12B	
C8865	1-104-664-11	ELECT 47UF	20.00% 16V	D8900	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8866	1-164-346-11	CERAMIC CHIP 1UF	16V	D8901	8-719-158-49	DIODE UDZ-TE-17-12B	
C8867	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	D8902	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8868	1-126-964-11	ELECT 10UF	20.00% 50V	D8903	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8869	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V	D8904	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8900	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	D8905	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8901	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V	D8906	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8902	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V	D8907	8-719-158-49	DIODE UDZ-TE-17-12B	
C8903	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	D8908	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8904	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V	D8909	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8905	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	D8910	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8906	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	D8911	8-719-056-85	DIODE UDZS-TE17-8.2B	
C8907	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V	D8912	8-719-158-49	DIODE UDZ-TE-17-12B	
C8908	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	D8913	8-719-158-49	DIODE UDZ-TE-17-12B	
C8909	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V	D8914	8-719-158-49	DIODE UDZ-TE-17-12B	
C8910	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	D8915	8-719-158-49	DIODE UDZ-TE-17-12B	
C8911	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V				
C8914	1-126-933-11	ELECT 100UF	20.00% 16V			<FILTER>	
C8977	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V	FL8200	1-236-071-11	ENCAPSULATED COMPONENT	
C8978	1-163-009-11	CERAMIC CHIP 0.001UF	10.00% 50V	FL8201	1-233-764-21	FILTER	
		<FILTER>		FL8203	1-236-071-11	ENCAPSULATED COMPONENT	
CF8200	1-781-328-21	TRAP, CERAMIC		FL8302	1-236-071-11	ENCAPSULATED COMPONENT	
		<CONNECTOR>		FL8304	1-236-071-11	ENCAPSULATED COMPONENT	
CN8101	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P		FL8308	1-236-071-11	ENCAPSULATED COMPONENT	
CN8900	1-561-534-41	SOCKET, PIN 21P		FL8500	1-236-071-11	ENCAPSULATED COMPONENT	
CN8901	1-695-293-11	SOCKET 21P		FL8501	1-236-071-11	ENCAPSULATED COMPONENT	
CN8902	1-695-293-11	SOCKET 21P		FL8502	1-233-765-21	FILTER	
		<DIODE>		FL8503	1-233-768-21	FILTER	
D8200	8-719-158-49	DIODE UDZ-TE-17-12B		FL8504	1-233-766-21	FILTER	
D8201	8-719-158-49	DIODE UDZ-TE-17-12B		FL8700	1-236-071-11	ENCAPSULATED COMPONENT	
D8202	8-719-158-49	DIODE UDZ-TE-17-12B		FL8701	1-236-071-11	ENCAPSULATED COMPONENT	
D8203	8-719-158-49	DIODE UDZ-TE-17-12B		FL8801	1-236-071-11	ENCAPSULATED COMPONENT	
D8801	8-719-158-49	DIODE UDZ-TE-17-12B		FL8802	1-236-071-11	ENCAPSULATED COMPONENT	
D8802	8-719-158-49	DIODE UDZ-TE-17-12B				<IC>	
D8803	8-719-158-49	DIODE UDZ-TE-17-12B		IC8101	8-759-576-76	IC TDA2822D013TR	
D8804	8-719-158-49	DIODE UDZ-TE-17-12B		IC8151	8-752-072-94	IC CXA1875AM-T4	
D8805	8-719-158-49	DIODE UDZ-TE-17-12B		IC8200	8-759-654-42	IC MSP3410D-C5QA-B4	
D8806	8-719-158-49	DIODE UDZ-TE-17-12B		IC8201	8-759-701-36	IC MC3403NS-E20	
D8807	8-719-158-49	DIODE UDZ-TE-17-12B		IC8202	8-759-908-15	IC TL431CZ	
D8808	8-719-158-49	DIODE UDZ-TE-17-12B		IC8301	8-752-096-06	IC CXA2163Q-T6	
D8809	8-719-158-49	DIODE UDZ-TE-17-12B		IC8302	8-759-485-79	IC TC7SET08FU(TE85R)	
D8810	8-719-158-49	DIODE UDZ-TE-17-12B		IC8500	8-752-390-37	IC CXD2064Q-T6	
D8811	8-719-158-49	DIODE UDZ-TE-17-12B		IC8601	8-759-576-74	IC LF90CDT-TR	
D8812	8-719-158-49	DIODE UDZ-TE-17-12B		IC8602	8-759-576-72	IC LF50CDT-TR	
				IC8603	8-759-576-72	IC LF50CDT-TR	
				IC8604	8-759-576-72	IC LF50CDT-TR	
				IC8700	8-752-390-35	IC CXD2057M-T6	

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
IC8801	8-752-096-83	IC CXA2149AQ-TL		R8106	1-216-081-00	RES-CHIP 22K 5%	1/10W
IC8802	8-759-385-76	IC MC14052BDR2		R8107	1-216-081-00	RES-CHIP 22K 5%	1/10W
	<JACK>			R8108	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
J8901	1-774-747-11	JACK BLOCK, PIN		R8109	1-249-389-11	CARBON 4.7 5%	1/4W
	<CHIP CONDUCTOR>			R8110	1-249-389-11	CARBON 4.7 5%	1/4W
JR8401	1-216-295-11	SHORT 0		R8111	1-216-033-00	RES-CHIP 220 5%	1/10W
	<COIL>			R8112	1-216-033-00	RES-CHIP 220 5%	1/10W
L8200	1-412-006-31	INDUCTOR 10UH		R8115	1-216-029-00	RES-CHIP 150 5%	1/10W
L8202	1-408-615-31	INDUCTOR 100UH		R8116	1-216-029-00	RES-CHIP 150 5%	1/10W
L8203	1-408-615-31	INDUCTOR 100UH		R8117	1-216-029-00	RES-CHIP 150 5%	1/10W
	<TRANSISTOR>			R8118	1-216-029-00	RES-CHIP 150 5%	1/10W
Q8100	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8165	1-216-295-11	SHORT 0	
Q8101	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8167	1-216-025-11	RES-CHIP 100 5%	1/10W
Q8156	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8168	1-216-025-11	RES-CHIP 100 5%	1/10W
Q8157	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8174	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
Q8200	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8175	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
Q8201	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8200	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q8202	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8201	1-216-295-11	SHORT 0	
Q8300	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8202	1-216-021-00	RES-CHIP 68 5%	1/10W
Q8302	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8203	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
Q8303	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8204	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q8305	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8205	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
Q8306	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8206	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q8308	8-729-038-96	TRANSISTOR IMZ1A-T109		R8208	1-216-037-00	RES-CHIP 330 5%	1/10W
Q8309	8-729-038-96	TRANSISTOR IMZ1A-T109		R8209	1-208-790-11	METAL CHIP 2.2K 0.5%	1/10W
Q8310	8-729-038-96	TRANSISTOR IMZ1A-T109		R8210	1-216-025-11	RES-CHIP 100 5%	1/10W
Q8501	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8211	1-216-295-11	SHORT 0	
Q8503	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8212	1-216-295-11	SHORT 0	
Q8504	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8213	1-216-295-11	SHORT 0	
Q8700	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8214	1-216-295-11	SHORT 0	
Q8801	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8216	1-216-025-11	RES-CHIP 100 5%	1/10W
Q8802	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8217	1-216-025-11	RES-CHIP 100 5%	1/10W
Q8805	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8218	1-216-049-11	RES-CHIP 1K 5%	1/10W
Q8807	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8219	1-216-025-11	RES-CHIP 100 5%	1/10W
Q8809	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8220	1-216-025-11	RES-CHIP 100 5%	1/10W
Q8817	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8221	1-216-025-11	RES-CHIP 100 5%	1/10W
Q8818	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8222	1-216-295-11	SHORT 0	
Q8819	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8223	1-216-089-11	RES-CHIP 47K 5%	1/10W
Q8901	8-729-120-28	TRANSISTOR 2SC2412K-T-146-R		R8224	1-216-089-11	RES-CHIP 47K 5%	1/10W
Q8902	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		R8225	1-216-089-11	RES-CHIP 47K 5%	1/10W
	<RESISTOR>			R8226	1-216-089-11	RES-CHIP 47K 5%	1/10W
R8103	1-216-075-00	RES-CHIP 12K 5%	1/10W	R8227	1-216-089-11	RES-CHIP 47K 5%	1/10W
R8104	1-216-075-00	RES-CHIP 12K 5%	1/10W	R8228	1-216-089-11	RES-CHIP 47K 5%	1/10W
R8105	1-216-057-00	RES-CHIP 2.2K 5%	1/10W	R8229	1-216-295-11	SHORT 0	
				R8230	1-216-081-00	RES-CHIP 22K 5%	1/10W
				R8231	1-216-089-11	RES-CHIP 47K 5%	1/10W
				R8232	1-216-089-11	RES-CHIP 47K 5%	1/10W
				R8233	1-216-089-11	RES-CHIP 47K 5%	1/10W
				R8234	1-216-089-11	RES-CHIP 47K 5%	1/10W
				R8235	1-216-089-11	RES-CHIP 47K 5%	1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK
R8236	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8237	1-216-043-91	RES-CHIP	560 5% 1/10W
R8238	1-216-063-91	RES-CHIP	3.9K 5% 1/10W
R8239	1-216-069-00	RES-CHIP	6.8K 5% 1/10W
R8240	1-208-782-11	METAL CHIP	1K 0.5% 1/10W
R8243	1-216-021-00	RES-CHIP	68 5% 1/10W
R8300	1-216-295-11	SHORT	0
R8302	1-216-017-91	RES-CHIP	47 5% 1/10W
R8306	1-216-083-00	RES-CHIP	27K 5% 1/10W
R8307	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8308	1-216-039-00	RES-CHIP	390 5% 1/10W
R8309	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8310	1-216-037-00	RES-CHIP	330 5% 1/10W
R8312	1-216-091-00	RES-CHIP	56K 5% 1/10W
R8313	1-216-081-00	RES-CHIP	22K 5% 1/10W
R8314	1-216-295-11	SHORT	0
R8316	1-216-037-00	RES-CHIP	330 5% 1/10W
R8317	1-216-295-11	SHORT	0
R8318	1-216-295-11	SHORT	0
R8319	1-216-295-11	SHORT	0
R8320	1-216-041-00	RES-CHIP	470 5% 1/10W
R8322	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8323	1-216-017-91	RES-CHIP	47 5% 1/10W
R8324	1-216-041-00	RES-CHIP	470 5% 1/10W
R8326	1-216-017-91	RES-CHIP	47 5% 1/10W
R8328	1-216-025-11	RES-CHIP	100 5% 1/10W
R8329	1-216-025-11	RES-CHIP	100 5% 1/10W
R8330	1-216-041-00	RES-CHIP	470 5% 1/10W
R8331	1-216-041-00	RES-CHIP	470 5% 1/10W
R8332	1-216-041-00	RES-CHIP	470 5% 1/10W
R8333	1-216-041-00	RES-CHIP	470 5% 1/10W
R8334	1-216-041-00	RES-CHIP	470 5% 1/10W
R8336	1-216-041-00	RES-CHIP	470 5% 1/10W
R8337	1-216-041-00	RES-CHIP	470 5% 1/10W
R8338	1-216-017-91	RES-CHIP	47 5% 1/10W
R8339	1-216-017-91	RES-CHIP	47 5% 1/10W
R8340	1-216-063-91	RES-CHIP	3.9K 5% 1/10W
R8341	1-216-041-00	RES-CHIP	470 5% 1/10W
R8344	1-216-091-00	RES-CHIP	56K 5% 1/10W
R8345	1-216-079-00	RES-CHIP	18K 5% 1/10W
R8346	1-216-091-00	RES-CHIP	56K 5% 1/10W
R8347	1-216-079-00	RES-CHIP	18K 5% 1/10W
R8506	1-216-091-00	RES-CHIP	56K 5% 1/10W
R8507	1-216-295-11	SHORT	0
R8508	1-216-043-91	RES-CHIP	560 5% 1/10W
R8509	1-216-031-00	RES-CHIP	180 5% 1/10W
R8510	1-216-067-00	RES-CHIP	5.6K 5% 1/10W
R8511	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8512	1-216-295-11	SHORT	0
R8514	1-216-017-91	RES-CHIP	47 5% 1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK
R8517	1-216-295-11	SHORT	0
R8519	1-216-037-00	RES-CHIP	330 5% 1/10W
R8520	1-216-041-00	RES-CHIP	470 5% 1/10W
R8521	1-216-061-00	RES-CHIP	3.3K 5% 1/10W
R8522	1-216-041-00	RES-CHIP	470 5% 1/10W
R8523	1-216-033-00	RES-CHIP	220 5% 1/10W
R8524	1-216-295-11	SHORT	0
R8526	1-216-061-00	RES-CHIP	3.3K 5% 1/10W
R8527	1-216-047-91	RES-CHIP	820 5% 1/10W
R8528	1-216-047-91	RES-CHIP	820 5% 1/10W
R8529	1-216-055-00	RES-CHIP	1.8K 5% 1/10W
R8530	1-216-051-00	RES-CHIP	1.2K 5% 1/10W
R8531	1-216-053-00	RES-CHIP	1.5K 5% 1/10W
R8532	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8700	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8701	1-216-073-00	RES-CHIP	10K 5% 1/10W
R8702	1-216-025-11	RES-CHIP	100 5% 1/10W
R8703	1-216-025-11	RES-CHIP	100 5% 1/10W
R8704	1-216-025-11	RES-CHIP	100 5% 1/10W
R8705	1-216-295-11	SHORT	0
R8706	1-216-049-11	RES-CHIP	1K 5% 1/10W
R8707	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8708	1-216-081-00	RES-CHIP	22K 5% 1/10W
R8709	1-216-059-00	RES-CHIP	2.7K 5% 1/10W
R8801	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8802	1-216-073-00	RES-CHIP	10K 5% 1/10W
R8803	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8804	1-216-073-00	RES-CHIP	10K 5% 1/10W
R8805	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R8806	1-216-085-00	RES-CHIP	33K 5% 1/10W
R8807	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8810	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R8813	1-216-073-00	RES-CHIP	10K 5% 1/10W
R8816	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8817	1-216-073-00	RES-CHIP	10K 5% 1/10W
R8820	1-216-295-11	SHORT	0
R8821	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8822	1-216-073-00	RES-CHIP	10K 5% 1/10W
R8826	1-216-051-00	RES-CHIP	1.2K 5% 1/10W
R8836	1-216-025-11	RES-CHIP	100 5% 1/10W
R8846	1-216-295-11	SHORT	0
R8854	1-216-029-00	RES-CHIP	150 5% 1/10W
R8855	1-216-031-00	RES-CHIP	180 5% 1/10W
R8856	1-216-055-00	RES-CHIP	1.8K 5% 1/10W
R8857	1-216-089-11	RES-CHIP	47K 5% 1/10W
R8858	1-216-079-00	RES-CHIP	18K 5% 1/10W
R8859	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R8864	1-216-295-11	SHORT	0
R8865	1-216-023-00	RES-CHIP	82 5% 1/10W
R8866	1-216-022-00	RES-CHIP	75 5% 1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK			REF.NO.	PART.NO	DESCRIPTION	REMARK		
R8867	1-216-049-11	RES-CHIP	1K	5%	1/10W	R8931	1-216-039-00	RES-CHIP	390	5%	1/10W
R8868	1-216-033-00	RES-CHIP	220	5%	1/10W	R8932	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8869	1-216-033-00	RES-CHIP	220	5%	1/10W	R8933	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8870	1-216-295-11	SHORT	0			R8934	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8871	1-216-049-11	RES-CHIP	1K	5%	1/10W	R8935	1-216-113-00	RES-CHIP	470K	5%	1/10W
R8872	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R8936	1-216-113-00	RES-CHIP	470K	5%	1/10W
R8873	1-216-113-00	RES-CHIP	470K	5%	1/10W	R8937	1-216-035-00	RES-CHIP	270	5%	1/10W
R8874	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R8938	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R8875	1-216-113-00	RES-CHIP	470K	5%	1/10W	R8939	1-216-035-00	RES-CHIP	270	5%	1/10W
R8876	1-216-093-91	RES-CHIP	68K	5%	1/10W	R8940	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R8877	1-216-093-91	RES-CHIP	68K	5%	1/10W	R8941	1-216-025-11	RES-CHIP	100	5%	1/10W
R8878	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R8942	1-216-009-91	RES-CHIP	22	5%	1/10W
R8879	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	R8943	1-216-022-00	RES-CHIP	75	5%	1/10W
R8880	1-216-295-11	SHORT	0			R8944	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R8881	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8945	1-216-022-00	RES-CHIP	75	5%	1/10W
R8882	1-216-079-00	RES-CHIP	18K	5%	1/10W	R8946	1-216-033-00	RES-CHIP	220	5%	1/10W
R8883	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	R8947	1-216-039-00	RES-CHIP	390	5%	1/10W
R8885	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	R8948	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8888	1-216-033-00	RES-CHIP	220	5%	1/10W	R8949	1-216-022-00	RES-CHIP	75	5%	1/10W
R8889	1-216-033-00	RES-CHIP	220	5%	1/10W	R8950	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8890	1-216-295-11	SHORT	0			R8951	1-216-033-00	RES-CHIP	220	5%	1/10W
R8892	1-216-295-11	SHORT	0			R8952	1-216-113-00	RES-CHIP	470K	5%	1/10W
R8893	1-216-295-11	SHORT	0			R8953	1-216-035-00	RES-CHIP	270	5%	1/10W
R8900	1-216-039-00	RES-CHIP	390	5%	1/10W	R8954	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R8901	1-216-049-11	RES-CHIP	1K	5%	1/10W	R8955	1-216-039-00	RES-CHIP	390	5%	1/10W
R8902	1-216-039-00	RES-CHIP	390	5%	1/10W	R8956	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8903	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8957	1-216-025-11	RES-CHIP	100	5%	1/10W
R8904	1-216-089-11	RES-CHIP	47K	5%	1/10W	R8958	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8905	1-216-113-00	RES-CHIP	470K	5%	1/10W	R8959	1-216-022-00	RES-CHIP	75	5%	1/10W
R8906	1-216-035-00	RES-CHIP	270	5%	1/10W	R8960	1-216-033-00	RES-CHIP	220	5%	1/10W
R8907	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R8961	1-216-022-00	RES-CHIP	75	5%	1/10W
R8908	1-216-035-00	RES-CHIP	270	5%	1/10W	R8962	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R8909	1-216-049-11	RES-CHIP	1K	5%	1/10W	R8963	1-216-113-00	RES-CHIP	470K	5%	1/10W
R8911	1-216-025-11	RES-CHIP	100	5%	1/10W	R8964	1-216-035-00	RES-CHIP	270	5%	1/10W
R8913	1-216-022-00	RES-CHIP	75	5%	1/10W	R8965	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R8914	1-216-071-00	RES-CHIP	8.2K	5%	1/10W	R8968	1-216-022-00	RES-CHIP	75	5%	1/10W
R8915	1-216-022-00	RES-CHIP	75	5%	1/10W	R8969	1-216-033-00	RES-CHIP	220	5%	1/10W
R8916	1-216-033-00	RES-CHIP	220	5%	1/10W	R8974	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R8917	1-216-033-00	RES-CHIP	220	5%	1/10W	R8977	1-216-037-00	RES-CHIP	330	5%	1/10W
R8918	1-216-113-00	RES-CHIP	470K	5%	1/10W	R8978	1-216-037-00	RES-CHIP	330	5%	1/10W
R8919	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	R8979	1-216-045-00	RES-CHIP	680	5%	1/10W
R8922	1-216-022-00	RES-CHIP	75	5%	1/10W	R8980	1-216-045-00	RES-CHIP	680	5%	1/10W
R8923	1-216-022-00	RES-CHIP	75	5%	1/10W	R8981	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8924	1-216-022-00	RES-CHIP	75	5%	1/10W	R8982	1-216-079-00	RES-CHIP	18K	5%	1/10W
R8925	1-216-022-00	RES-CHIP	75	5%	1/10W	R8994	1-216-073-00	RES-CHIP	10K	5%	1/10W
R8926	1-216-033-00	RES-CHIP	220	5%	1/10W	R8995	1-216-089-11	RES-CHIP	47K	5%	1/10W
R8927	1-216-033-00	RES-CHIP	220	5%	1/10W	R8996	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R8928	1-216-033-00	RES-CHIP	220	5%	1/10W						
R8929	1-216-039-00	RES-CHIP	390	5%	1/10W						
R8930	1-216-049-11	RES-CHIP	1K	5%	1/10W						

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
		<CRYSTAL>					
X8200	1-781-148-21	VIBRATOR, CRYSTAL					
X8301	1-781-612-11	VIBRATOR, CRYSTAL					
X8700	1-767-342-21	VIBRATOR, CRYSTAL					